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Editorial

Great solutions for the great problems

Respected Bengali intellectual Gopal Halder has delineated his interview and conversations with Rabindranath in brief, in the part 'Rajpath-Janapath' (page-285), Vol. II of 'Rupnaraner Kule', written by him, which appears to be relevant enough, even in these present days. It may be mentioned that most of the readers of this magazine from the new generation haven't gone through that article. Seems repetition of the same topic wouldn't be wearisome for those even who have studied already.

Gopalbabu arrived at the poet's house in Kolkata with Indologist Prof. Suneetikumar Chattopadhyay. Just before a couple of days, the poet delivered a lecture at the foot of the 'monument' contending against the 'Hijlee' captives massacre. Naturally he was in a weighed down mood. After he completed discussion with the poet, Suneetibabu introduced Gopalbabu as a research fellow of philology and an actively engaged person with politics besides, therefore the poet may make out somewhat about the state-craft from him, if interested. Listening to this, out of his habitual inquisitiveness, the poet removed the images of pain and anguish overcasted his decrepit face and eyes, and had a conversation with Gopalbabu, which we find in such a shape, if arranged.

Rabindranath: I am not aware of your ideation. But there is no settlement for this problem with rage and anger. That causes misuse of energy only. Power should be established on the veracity. Independence can not be fetched by the sudden excitement of a few people, assassination of the rulers and all.

Gopal (hesitated, in a low voice): I like to submit a few words, if you permit.

Rabindranath (ardently moved a little, with affection): please disclose, whatever you like to.

Gopal: Can't say about the universal opinion, not even possible for me. Well, as you have mentioned, such attempt of a few people bears no fruit, most people comprehend and admit it. But some of them place arguments in this manner that by the act of utmost self-sacrifice of a little, it would be possible to inspire a lot for a humble sacrifice - its there own reasoning.

Rabindranath: That is a blunder. The human society may be amazed momentarily for sacrificing of life in that way. In that case most people may fall back, thinking themselves incompetent parallelly. The principle of action and determination of people requires to be awakened and induced through virtuous acts and procedures just, not by surprising.

Gopal: There are some more - they are not grown-up, but young. Their view - our country is so great with such an ancient inheritance. The people of a remote, small country would be the ruler and brandish their sceptre in this way - as if a challenge against our humanity and humiliation of everyone's self-entirety. I feel myself hypocritical unless I can answer this.

Rabindranath : (seemingly a startled look appeared on his face with the word 'self-entirety'. Remained still for a moment. After that removed a shadow from his forehead and revealed firmly with more resolution): Perceived your heartfelt anguish. However behold it, don't consider the matter in that way. Its an uncommon problem in our country. A great query, probably attached with the great problems with this entire world. Moreover we have to execute it in our country, resembling the acceptable solutions of the whole world. It cannot be answered briefly - rejoinders for the great problems should have a magnitude. **P A S**

Psychiatrist Dhirendranath

(Continued article - 9th part)

Basu Dev Mukherjee

[We consider Dhirendranath as one of the leading pioneers of psychiatry in India. In the previous issues of this magazine we had included the intellectual formation and socio-psychological development of Dhirendranath as a psychiatrist. He had many introductions but over all other introductions, being a psychiatrist can claim of the fundamental ones. We will continue to examine the matter further in this issue regarding his achievement as a psychiatrist in practice due to wholistic participation in the subject. Ed. PAS.]

Suggestion

The room is dimly lit; the patient has spread out his own body-relaxed and benumbed on the bed with closed eyes; Dhirendranath is giving suggestions, which is being made to an audio-cassette in a recorder, "Your eye-lids are becoming as heavy as lead, you are falling asleep" This is quite a familiar sight. In this way almost everyday throughout around forty years he has given suggestions, to a patient or two in average, first at Bhowanipore and later in his rented house at Shyambazar, Kolkata.

Generally a single session used to continue for half an hour or forty minutes in average. Prior to giving suggestions he used to ask almost every patient to remember a familiar sight, "... Suppose (or imagine), the ways boys lie down on the grass in the playground being tired and slackening their limbs, likewise you have lied down on the bed unravelling your body."

However, here we are informing only about the names of different schools of psychotherapy and their short introduction and in this context we also inform you that, there are or may be numerous other schools of psychotherapy. If we say a few words about these psychotherapies, it would be convenient for the readers to understand which psychotherapy Dhirendranath did. The list in this series is as following -

Psychoanalytical psychotherapy: This is often called psychodynamic psychotherapy also. On thinking a little it would be understood that almost all kinds of psychotherapy prevalent nowadays have been developed either from the model of psychoanalytical theory or from the behaviourist model. However 90% of it has been developed from the model of psychoanalytical theory. In that case Freud or his next followers had admitted that, the 'pure gold' of the psychoanalytical theory would always 'be alloyed by the copper named suggestion'. That's why psychotherapy in their words can be stated as, "To change the behaviour of the person through conversation (talking cure)."

However this very psychotherapy is still considered to be the most suitable psychotherapy and in the entire world this very psychotherapy gets importance in different types of trainings for the students. This therapy is majorly used also in the fields of diagnosis and treatment of a disease. A somewhat method of training is maintained in the field of its use; but in case of giving time to a patient one follows his/her will. In this method the therapist and the patient completes the job of treatment sitting face to face. It is also called in other names such as expressive, expressive-supportive, informed-supportive, exploratory psychotherapy etc..

The basis of this therapy is as following. We hinder all our positive and negative excitements obtained in the childhood and with these our biological needs get integrally calculated. They make various conflicts deeply buried inside our mind, due to which our later behaviour, emotions, thoughts are affected. This deeply buried conflicts are pursued through mental analysis followed by the arrangement of their treatment.

Through this treatment it is tried to make the patient understand his own condition and position containing certain ingredients which the patient perhaps couldn't make out. In this case the job of the therapists is to help the patient understand those subjects (uncovering and suppressed).

Supportive psychotherapy: In this treatment a transitory dependance of treatment is built up between the therapist and the patient, which helps that weak patient to manage the problems suddenly confronted by him. This is probably our oldest psychotherapy which every sensitive person around us do to their perturbed friends. As a result a temporary dependance on the therapist also grows.

Behaviour therapy: Pavlovian psychotherapy is included under this class which is not at all correct. Because in Pavlovian psychology consideration of the entire human nature is talked about, whereas in behaviour-psychology only a person's outward behaviour is considered to be the only investigable matter. However in the text books behaviour therapy means - to change the behaviour of the patient is continuing. Thus the will to improve his complete health is expressed and alongwith that he is informed about any problem he may have and offered necessary guidance. Under this consideration it becomes evident that, not only behaviour therapy but also a division called behavioural medicine has now been made. It is being considered to be a separate module due to which it is being claimed that an easy access would be possible from one division to the other or to the other module as required.

Hypnosis: It is said that an extremely wonderful development of the power of imagination has occurred in human beings and because of it they have acquired the ability to serially reconstruct their logical process, plan of work, something done spontaneously, the act of changing own behaviour through all these and so on. It is possible to succeed in the field of alleviating especially any mental pressure caused by his abnormal mental state or any physical problem, putting this ability to the cause of treatment.

It can be said that, this method of psychotherapy is a controlled imagination. It should be remembered that, Pavlov had given a more advanced explanation about hypnosis than this one, seventy years ago; but at that time the American Psychiatric Society had prohibited hypnosis. As a result no importance was at all attached to this subject.

Group psychotherapy: It can be stated as the making of action and reaction of the inter-human relations under the direction of a therapist. It comes to the help of particularly those, who have distortion of the thoughts about others, fails to properly realize any subject, become tensed not being able to properly express their own emotions, have the tendency to do a work repeatedly, have the habit of doing impulsively and have a traumatized and lonely mental condition and so on. Quite a good result is thus obtained under this system.

Family therapy and couple therapy: Through the treatment in this method, having sat together with or separately from the family members, their problems are extensively discussed and are intended to change. The purpose of this therapy is to make the understanding among

the family members stronger and to make them collectively or individually more active. This therapy can be done to any extent and in any problem of the family.

Cognitive therapy: A lot of things are meant by cognitive psychotherapy. As for example starting from the diagnosis, directing the patient in different environment and situation to making him thoroughly realize his own perspective and so on are there in this method. Alongwith that the therapist's own merit and ability are considered to be extremely important in this therapy. The basis of cognitive therapy is a certain type of neurosis theory where the ideas of the former are made from the conception of moulding the logical process of our socio-psychology, the psychoanalytical theory and information-processing system etc.. Different types of clinical experiments are also done through this method.

Interpersonal psychotherapy: This type of psychotherapy is considered to be appropriate mainly for the patients of depression of any age. Here the patient's current problem and socio-familial perspective are given much more importance. Through this it is observed how the patient's present signs and symptoms have been made and what the relation between this social disorder and his depression is. It has been noticed that, during this time the individual's personality remains in such a disorderly condition that it becomes impossible to evaluate anything about the patient's disease from it.

Brief psychotherapy: In this method an individual's thought process and wishes are reconstructed and his behaviour is intended to change through a conversation between the patient and the therapist. It is evident from the name that the difference between this one and the other methods is that, here it is tried to fulfill the aim of the therapy in as little time as possible.

Erikson method: Through this module by psychiatrist Erikson the individual's 'ego' is intended to be strengthened even more. The aim remains in that the individual can even more excellently cope up with his familial and social environment. It is specially looked into that the person can fantastically recover the crisis of personality which occurs in the formative years. There is no specific aim in this method; but according to Erikson's opinion, the therapist would try to integrally calculate the patient with his method of treatment following whatever new information whenever obtained from the latter. As a result the therapist's experience and conception would also grow further.

In addition to this, the other methods which are notable as psychotherapy include – paradoxical and strategic therapy, client centered therapy, transactional psychotherapy, guided imagery therapy, feminist psychotherapy, computer-aided psychotherapy, transpersonal psychotherapy etc.. But there is nothing to say separately about these therapies. On finding out it would be known that they have been formed with a slight alternation in those previous therapies.

However, psychotherapy was formally started around the year 1920 in Western countries by Psychoanalytical Society. Here too Dr. Girindra Sekhar Bose started this work around 1930 in his personal practice at R.G.Kar Medical College and later on at Lumbini (the name definitely remind us of Lord Buddha!) Park Hospital, Kolkata.

At that time there were no medicines for treating mental ailments as such. The specialists of Psychoanalytical Society throughout the globe were against applying medicines for treating mental diseases due to two reasons. Firstly, they used to say that the signs and symptoms of the patient could alter or increase if medicines are applied and in that case they would face

problem in applying their module of treatment.

Moreover as a result of this, the relation they make with the patient through their treatment would be interrupted. Consequently according to their opinion, medicines and psychotherapy are incompatible. so according to their conception, no medicine should be used on the patient while applying psychotherapy. The psychoanalysts all over the world were rigid to this attitude upto 1970.

Thereafter they started changing their opinion and now 95% psychoanalysts do combined therapy i.e. apply both medicines and psychotherapy. However in this country Dhirendranaths problem was that he was not a psychoanalyst. Yet he performed psychotherapy! Then what treatment he did! A few psychoanalysts of Kolkata knew what Dhirendranath used to do; but probably due to the fear of getting ostracized they did not say anything openly.

On being asked why we should do psychotherapy Dhirendranath had the following definite answer - 1. In order to reduce the relapse rate of chronic psychiatric illnesses treating only with medicines is not adequate, the patient should be applied as much psychotherapy as possible and 2. one has got the disease means he is failing to properly cope up with his family and the social environment. So, psychotherapy is definitely necessary for increasing his adjustability. This job would never be possible with the intake of a couple pills or capsules.

We can certainly understand later on from the research results that these sayings are true to a great extent. Because 2% of the diseases we have are due to the defects of the Mendellian genes. In this case it can be assumed that there are certain oppressive components in society or in the family which are responsible for the making of all our diseases, even the mental diseases.

Nobel winner Eric Kandel (1939 -) while experimenting among different animals showed that it is possible an organic-structural change of the neurobiology of animals through conditioning. Moreover a structural change of our brain can take place due to the conditioning of environment – this Pavlovian lesson was considered to be an established truth of science by Dhirendranath and he tried to make us to consider that.

Dhirendranth had shown through recovering from various serious ailments in his own life also that if the desire in a human being to stay well, the desire to live, the desire to get well is virulent, he can prevent diseases or their acuteness to a great extent.

In his grown-up years he had faced death for physical ailments at least thrice; but on each occasion he had surprisingly recovered. I have heard only from him that in the early days the body-mind parallelism was one of the important subjects of our World-outlook. Although with the progress of biology and physiological research this parallelism went away, but no qualitative change of our outlook occurred as such. As a result we do not want to believe at all that there is quite an impact of the physical activities on the mind and from the opposite direction the mental pressure on the body.

This does not mean that we don't get into trouble while getting into work with the 'mind'. While trying any human being we have to think that we are handling a conscious and aware person. Here in case of the abnormal condition of the person it is impossible to specifically point out which one of these is a biological ingredient, or a psychological ingredient or a social ingredient. Under this consideration his say was that in this case we have to think afresh if necessary and derive new modules. But it was his strong perception that at least the mental patients would not remain well without the warm association of humans.

Though a study in 1952 Eysenck showed that, 675 patients are getting spontaneous recovery within two years without the treatment by conventional medicines. Later on innumer-

able experiments were done in this regard and according to statistical calculations here it has been proved that, psychotherapy keeps on working with certainty for curing the patients and for preventing the chance of occurrence of the disease at later times. On being questioned in this matter Dhirendranath used to say that, nobody questions how surgical treatment or antibiotics work or if they work at all because they come under the established method of treatment.

Nobody knows even that how the antibiotics work inside the body at all. But in case of psychotherapy different questions are being raised because here the method of treatment has still not got recognition. Yet one has to remember that, here a responsible trained person is using psychotherapy as one of the modules of treatment having realized and to lessen the patient's trouble and is actually being able to do so. What can be a bigger than this? The physician himself is taking decision on exactly this type of arrangement should be made in case of his patients and is doing psychotherapy from the desire of curing the patient and in exchange of that he himself is getting educated.

He used to say with much self-confidence, "Anybody watching me would possibly say that, I am intentionally not giving medicines or giving underdose medicine, in order to give psychotherapy importance or to belittle medicine-based treatment. But in reality I judge each patient by his/her merit and do what I feel necessary for him. I admit that there is a risk in it. But I have to take this risk for the well-being of my patients. Because in this matter I am optimistic about psychotherapy to the extent my other friends are pessimistic about it."

Dhirendranath used to give this type of an explanation, simply and straightly about his psychotherapy. He used to say that his hypnotic suggestion therapy is a synthesized dubious module. Just as Pavlov had classified his module in order to understand the digestive process of the body, Dhirendranath used to say in this case that, like the dissection of a living animal we analyze the patient in a certain mental condition of his, while examining him to know his anatomical structure. Then we go to the chronic method in order to understand his function. In between lies the realization of his and his family about his entire life etc.. We bring to work these also.

Then synthesizing these two parts i.e. acute and chronic methods, we try to open a window for suggestion in his mind. All the scientific activities maintain this dubiousness, where analysis is done once, followed by a synthesization of those analyzed information. Pavlov too used to make a fistula in order to work in his chronic method. And we in this case considering speeches as the mediator, enter the patient's mind through suggestion and give him suggestion. In case of giving this suggestion it becomes extremely necessary to remember the Pavlovian brain type (has been discussed before).

The Functional path of Cerebrum and Cerebellum

We have stated earlier that, in psychotherapy we use the axis of hypothalamus-pituitary-adrenal for the need of treatment. It is necessary to get familiar with this diagram in order to understand that. So it is useful to say a few words about the issues described in the axis. Cerebrum plays the primary role in the central nervous system and in most of the cases the centre of speech, which is considered to be the latest acquired attribute with respect to the evolution of animals, lies left to it.

We know that we have built up this human civilization holding language, labour and co-operation – these three things as the capital. Among these language has the greatest importance. We can not even imagine of our present civilization without language. Through

speeches we make others laugh, cry, inspire them or persuade them to commit suicide. We have been using this very speech in suggestions or psychotherapy since the primitive age.

With respect to activities the organization of the brain has three major parts viz. (a) reception of sensation from the internal and external environment of the body, (b) analysis of those sensations through past-memory or past-experience, and on the basis of that (c) the animals, under the pressure of safeguarding their existence and adaptation, properly perform their activities depending on that sensation etc.. There are three mediums for the reception of these sensations, e.g. non-specific delicate part reticular activating system, specific flow of sensory path of nerve impulses coming from different parts of the body, special sensory organs in eyes, ears, nose, limbs etc..

In case of performance of activities too it can be noticed that, the three mediums here keep on working as follows: the non-specific reticular system is the most primitive and most scattered spreading of nerves of the central nervous system. It lies almost at the middle of the central nervous system, from top to bottom and this portion becomes the most active when we concentrate into something and while building up a conscious and aware state. That's why during an operation the patient sinks into a deep sleep if this particular portion somehow could be weakened while making him unconscious.

Not all of the excitement received through sensation which we call 'thalamic radiation' is accepted in the cerebrum. It is filtered and only the necessary or meaningful segment is sent upwards and whatever is sent is merged with the colour of passion and emotion through the limbic system. Likewise the commands which come from cerebrum for performing activities, get the tinge of the limbic system i.e. the work we do only after getting purified with emotions or affect would decide, with what devotion, concentration, quickness etc. we would accomplish the job.

Autonomic nervous system gives direction to all the internal organs (viscera), vessel and gets directed by the non-specific reticular activating system. As this work does not depend on our voluntary activities we cannot control the emotion that is constantly influencing the internal organs of the body. On the other hand the limbic system controls all the activities of our instinctive or unconditional chain of reflexes.

And in this matter it takes the help of the endocrinal glands for a long-lasting impact. In spite of being instinctively directed like other animals, human beings own the capacity of infinite revelation and rationality, for the presence of cerebrum, especially second signalling system. That is, with the power of cerebrum human beings can paralyse all of their virulent instinctive demands when in need.

In this regard Dhirendranath used to exemplify about the ability of the revolutionaries to tolerate torcher. As for example a revolutionary is inhumanly torchered in order to collect various secret information or documents pertaining to his organization. The kind of torcher we can not even bring to imagination. A revolutionary perhaps bears that or gets hanged with a smiling face. He then offers himself a kind of auto-suggestion that, he has to bear this torcher for the sake of his country, his organization and the revolution.

As a result the physical trouble then is no more taken to be a trouble. Only the human beings can do this, for they have such powerful cerebrum. Because he keeps it in his mind – that job of self-sacrifice or suicide is not dying in an accident, it is a conscious self-sacrifice.

However we have noticed that the inner substance of the Pavlovian concept about sleep and hypnosis is the brain's excitation and inhibition process. If the pressure on any one of these two methods increases excessively, the normal condition of the brain could

become abnormal.

Under this verdict if one's condition becomes abnormal, those who apply Pavlovian method of treatment investigate about the following matters of the patient. E.g. - 1. exactly which particular incident has caused this abnormal behaviour of the patient i.e. what is the speciality of that incident or how is the evident relation of the incident with the patient?

2. What is the condition of the patient's general health?

3. What is the patient's age (at a younger age he will have greater adaptability or flexibility)?

4. What kind of pre-morbid experiences he has?

5. How does he solve the various problems of his life etc..

It has been noticed that, in case of psychiatric diseases especially those mental diseases for which the effect of the environment is responsible to a large extent, an individual can not prevent the making of his abnormal condition only with the brain type or the ability of the brain.

Of course where the individual's organic vulnerability is pre-dominant, especially in case of major psychiatric ailments, it becomes impossible by all means to prevent the disease. The patient may have various plans for adaptation to recover from the disease, later on which don't become active anymore or become a failure.

According to Pavlov's opinion, the hypnotic phase is an intermediate condition of the awake and asleep state of the normal brain. In the perspective of the excitation-inhibition process of the brain, various states of this hypnotic phase can be noticed. In the general awakened condition of the brain a strong stimulus creates a strong reaction and a weak stimulus builds a weak reaction.

But the different sub-phases of the brain's hypnotic phase which we get to observe, the stimulus of same magnitude creates more than one or altered reactions in that. As for example the first sub-phase is the phase of equalization. Here it can be noticed that a stimulus, be it strong or weak, creates almost the same reaction in the brain. The second phase is the phase of sleep or paradoxical phase. Here it can be observed that a strong stimulus creates less reaction and comparatively weaker stimulus makes strong reaction. The third sub-phase is ultraparadoxical phase.

In this sub-phase we see that the same stimuli which weaken the brain, provide stimulation here, otherwise under normal condition no stimulus works here. We have to remember that all of the above things occur in a normal brain. On the other hand the equilibrium of this excitation-inhibition process is disturbed in an abnormal brain. As a result the three principle components of the brain viz. equilibrium, force, mobility etc. turn to utmost chaos.

Distinction of Psychotherapy

Before administering psychotherapy Dhirendranath had to think about and take decision over issues of the following type: 1. this patient needs psychotherapy and wonderful result could be obtained on administering psychotherapy on him,

2. all is well if psychotherapy is done on him; but that is not being possible due to various reasons,

3. he can be done either with psychotherapy or with counselling,

4. no particular result could be obtained by giving psychotherapy on him,

5. psychotherapy on this one might be done; but with all the labour whether any fruitition would occur at all - one can not be certain in this matter etc..

But one should remember that in general if the patient wished, he used to consider that

at least an effort should be made, on which patient the suggestion would be active. Because even if it doesn't result in to be beneficial, at least there is less possibility of causing any harm. On many occasions we can not even understand where, when or how suggestions would work on the patient's mind. So in many cases he also impressed the patients to take psychotherapy.

again one has to remember that, Dhirendranath had to consider certain issues when the patient got the medicines. E.g. 1. the patient is having difficulty in taking drugs, various side-effects are happening, so he can endure very little medicine or he is failing to endure medicine at all. So he has no other alternative for treatment but psychotherapy.

2. the patient is indeed taking drugs, but on doing psychotherapy the quantity of his medicines would decrease or the medicines could work more effectively in the body.

3. the patient has no objection in taking drugs; but he is not exactly getting his proper benefits by taking the medicines truly. Then it could be seen experimentally with psychotherapy only, whether it fulfills the complete job.

In this context let me tell you that, Dhirendranath's suggestion therapy was quite a labourious matter and he used to take a little more remuneration for him. However if the patient had no money and needed these suggestions, he didn't postpone this job for finance. At the chamber he used to regularly give live suggestion before making an audio-cassette. In this respect he was in a little better condition because the area of his chamber was quite big enough.

However it was not a sound-proof one and the noise of the buses and trams used to sneak in the cassette too because of its location on the main road at Shyambazar in Kolkata. Moreover in spite of making the cassette, later on at the time of a regular follow-up he used to give the patient a live suggestion on the major issues in a nutshell. This suggestion was a matter of liking - a considerable subject. As for example certain patients used to force him to make a cassette afresh or give live suggestion. They did not care even if he had any problem.

Again there were certain patients who could not be turned interested in the matter of taking suggestions though they needed it. In such cases he used to say that, it does not earn a profit for the patient to give him a cassette of the suggestions if he does not wish so. Because he builds an impossible resistance inside his mind in the matter of receiving the words of the suggestions.

Again there used to be no situation of listening to the cassette in the houses of many patients because of the following reasons - (a) there is no connection of electricity (the expenses for the batteries are much higher),

(b) there is no separate room for listening to the cassette in privacy,

(c) has no tape-recorder etc.. Yet these three things are extremely important for listening to a cassette.

So in this case there is the need for suggestions, the patient or the folks at his home are sincerely wanting it - if the case be so he was forced to propose them to take live suggestion. Many used to also try to solve this problem realizing the importance of the treatment. On many instances though the patient was unwilling, the folks at his home used to make an effort to explain the subject to him realizing its importance. It is certainly not that it always worked.

However many had a false apprehension about 'suggestion' for not knowing what exactly the subject is. So he used to explain to the patient or the folks at his home the matter of what he was intending to do. If the women patients had nobody with them, yet if they needed suggestions, he used to call his wife or daughter from his home adjacent to his chamber and

completed the job making them sit together. Now we would one by one evaluate a little elaborately the issues described previously.

1. If he thought that a particular patient needed suggestions and wonderful results would be obtained if he is given that, he used to try his level best to make him or the folks at his home understand that he has to take suggestions for the sake of treatment. The full result of the treatment couldn't be obtained only through the medicines.

At times he had to give up, then he used to tell the patient or the folks at his home that the recovery from the disease would get delayed for not taking suggestions, so the patient should get prepared to take that. Perhaps that too didn't work, then he used to try his patience and waited for the next time. In many cases keeping patience perhaps could change the patient's opinion. It is difficult to accept such an approach now-a-days. Because we generally don't get much to see the continuing of a war with the patient realizing what would be good for him.

2. On many occasions it was noticed that the patient is so poor in such a backward situation that good result would be got if he is given suggestions; but that is not being possible due to these reasons. Again it was noticed that the patient or the folks at his home can not realize the importance of this treatment, then he didn't think of the suggestions. In our conventional tradition the patients getting treated from the psychiatrists are habituated with such treatment that on many occasions they didn't want to give importance to these psychotherapies. He used to patiently make them understand this subject.

3. He used to have many patients who knew about the issue of suggestions; but they liked talking face to face (which is now called counselling) more than this, especially the patients of obsession or mania. In their cases hypnotic suggestion didn't become that much effective, because they faced new problems daily. But in the suggestions, there used to be a few words recorded at a time which used to become almost unnecessary for him within a few days.

Family and Inter-human relations

We are familial and social human beings and form different types of inter-human relations with different individuals in the family and in the society to secure our existence. Among them in the case of psychiatric diseases we give most importance to the familial relations. The movement of the future and that of the treatment of the individual's psychiatric diseases depends on the qualitative standard of the relationship between him and the members of his family.

Because the treatment of the psychiatric diseases and their movement can become complicated if this relationship turns sour and gets complex. On the contrary it is also true that, the hardship of the patient's suffering from diseases gets largely reduced if the familial relation comes across to be good. Again one has to also remember that, the individual's inter-human relations in the family and in the society may get disorderly due to the psychiatric diseases is a long-lasting chronic problem. Consequently no comparison between this one and any other chronic physical disease can be made; it is especially true when any one in the couple becomes sick. Because there remains no opportunity for the other one to think or do anything else. Yet the environment at home gets largely changed due to this chronic illness, consequently the children get harmed.

Because the requirement of a warm healthy environment of home is compulsorily felt at the time of their growth and development. Physical ailments and mental ailments are not seen through the same eyes in the family. In a research it has been noticed that, the patients get

comparatively much more help in the physical ailments. Even a wonderful familial tie may get destroyed due to the psychiatric ailment of any member of the family.

It's true that we say that the death of a near and dear one creates tremendous mental pressure; but in that case where the near and dear individual of the family remained almost like a burden for long, his or her death generally doesn't make any oppression to speak of.

As a psychiatrist Dhirendranath wanted to see 1. to what extent a relationship has become distressed or ineffective due to the psychiatric ailments or whether it is on the verge of breaking down and

2. whether this inter-human relationship has worsened as a result of psychiatric ailments or it had been already bad before such ailments or the two have occurred simultaneously. Again any other physical sickness may show up due to this. We know that any human being wants to talk with others about the problem of his inter-human relations when he gets into trouble. Consequently according to the teachings of Dhirendranath in the matter of this relation we keep on thinking in the backdrop of a thick line of this type.

Depth of relationships: In the matter of making relations each human being has a unique style, which we call attachment style. Psychiatrists have to understand this pattern. However in spite of such varieties none of our patients are people from other planets; consequently we can also find enough similarities in the matter of their such relationship.

Centre of power: In a family generally the men get importance in the matter of taking the main decisions or in the matter of demonstrating power. A terrific unrest may commence in the matter of this demonstration of power or establishment of superiority and hence it is not at all surprising for a continuous violent behaviour to happen.

Downright personal matter: Going deep into the matter we notice that a thing called 'down-right personal matter' can form in the family. Especially at this disintegrating time of the present families and it has been noticed that roughly everybody obeys that agreement. Generally the little ones are not allowed to have anything like personal matter; but even the matter of their privacy is accepted when they too grow up. In this case a conflict may ensue between the couple in the matter of giving authority to the children.

Moreover the issues such as who would provide how much time to the household works in the worldly affairs, who would supply how much money or spend how much etc. at times become the bone of contention. But generally we notice that everybody becomes compassionate when the entire family or personally somebody becomes sick or gets jeopardized.

Sexual behaviour: It can be said in this matter with certainty that, in our families male-dominance is absolutely maintained and generally no freedom of women is approved. The plain thing is that in this case a queer adultery between the men and the women is prevalent inside the family. However at present awareness in this matter is growing among the women. The problems are also increasing proportionately.

Toying with relationships: Everyday we build our world in the family and in the society through the manifestation of the talking and silent language. Their lies everything such as ethics, aim-ideal, a universal view-point and so on inside this world. Through the socialization process of the young ones in the family we want to spread out these very ethical values among them.

At times we go to the family or beyond it with these ethical values and verify whether we are standing at the right position! Often a conflict may ensue in the family following a difference in this point of view, and that conflict may take a dangerous shape. Especially if that centres as a cyclone between the couple.

In such cases the men get importance i.e. their statement remains somewhat like that they are continuing to behave correctly against the perspective of the appropriate situations; but on the other hand their complaint remains that the characteristics of their wives are such that they always cause conflict and can not or don't wish to rectify themselves.

Dhirendranath's opinion lied right opposite to this on. He always used to say, "I am on the women's side because in the worldly affairs these very people fall the most into distress when any problem concerning the inter-relations occurs." According to his idea the women are almost specialists in the matter of inter-relations. Because they compel the men to build a home and conserve the species.

So the women are conservative, far more cautious, perhaps a little narrow-minded; but this entire thing has to be considered keeping in mind the matter of conservation of species. The men are comparatively more restless and fickle-minded. The women don't want to easily bring any conflict to the fore and they don't go for one unless they are thoroughly left with no option. It's true that they remain silent; but they understand a lot. They don't open their mouth mainly for the fear of turmoil. This very situation becomes difficult when conflicts become inevitable in the worldly affairs for the fulfilment of any self-interest.

Perhaps the woman is making out that, a conflict is inevitable; but then can no more bar herself. It is often noticed that, a misunderstanding on the entire matter is taking place between the couple; but there the male is not approaching to solve the conflict with responsibility. Again on many occasions the explanation of the same incident or situation is being realized by the two in two different ways; but both are firm in their own decisions, nobody wants to move away from his or her position.

Even when discussion is welcome in these issues, mainly the male remains disinterested he wishes to maintain his male-dominance in this matter or he doesn't want to give his partner approval in any way. As a result the conflict reaches its high and mainly for the cause of maintaining the worldly affairs the hydraulic pressure of it has to be endured more by the very women. It has been proved now that, the women are quite harmed physically due to this conflict. Because the deterioration of the inter-human relations puts direct impact on the blood-circulation and immunity of the body.

However, when someone in the family falls sick he or she asks first family members for help and their opinion in this matter influences him quite a lot. The family members too initially try to cure the disease with homely quack remedies and then consider the fact whether there is a need for the help from a specialist. Later on begin the inquiries concerning where the help should be taken from. Meanwhile the folks at home start to make him understand, "It would not do if you become so weak", "Make your mind strong" and so on.

Often within the primary arrangements no good result of these things can be obtained, then one has to definitely go to a specialist. In many cases an opinion of the family physician in this regard is also taken. But in spite of all, one has to accept the fact that, still now in our society the families take an important role in the matter of the treatment and care of psychiatric diseases. At times the family takes the role of the controller even in issues such as how the treatment would take place, how long it would continue, for how many more days the patient would take the medicines and so on. This has advantages as well as disadvantages.

As for example if any responsible and sensitive person in the family takes the responsibility of treatment, the heavy burden of the treatment by the psychiatrist is much reduced. On the other hand if the family members become unwilling to take the responsibility, which occurs almost now and then, if they have wrong education in this matter or in the matter of the chronic

diseases, the patient's treatment remain incomplete; instead it gradually becomes complicated.

Moreover many patients have such complaint that their family members don't understand or even don't try to understand their suffering from disease. On many instances the folks at home have such complaint that he or she is creating these problems intentionally or mischievously. As a result a hiatus is made between the patient and his family members or a conflict between them becomes inevitable. In this context let me tell you a few words about the treatment of the paranoid patients which was one of the characteristics of Dhirendranath's treatment.

Initially paranoid patients vehemently oppose the treatment, because they conceive that a secret self-interest would be fulfilled against him by staging him to be a deranged person. Often due to this reason the patient is given medicines mainly mixed with the tea secretly at a very small dose. The patient's anger possibly reduces a little with this. Then any other member of the family is staged as the patient and he is brought to the physician. Then it gets manifested through the process of talking with the family members that the paranoid patient has a physical weakness and it is necessary for him to take some medicines to cure that.

It is certainly not so that it always works; but at least in the matter of secretly giving medicines, the endeavour has to be kept up. Often when the wife used to be a paranoid patient, her husband was staged to be the patient for her or the vice-versa also happens. It is worth observing with a captivated heart how Dhirendranath performed this treatment patiently.

As for example in case of secretly giving the medicines he used to ask thoroughly whether the patient drinks tea, who makes the tea at home, whether the patient would drink tea if somebody else makes it and subjects like that. On being asked why he is so emphasizing the tea he used to say that, everybody eventually drinks the tea only.

However when psychiatric diseases happen the conduct of the family probably becomes somewhat like the following: the disease happened, the family members came to know that, tried to cope up with that problem, then released him from some responsibilities and consulted with him so that he can overcome his problem. But within a few days the family members understood that it would not work, help from a psychiatrist would be needed. Now the family has its own discipline.

Often we see that the psychiatric patients upset the balance and discipline of the family. The family members try to the best of their abilities to cope up with this situation; but a time comes when the disappointment among them concerning the patient keeps on increasing, and then the matter is felt like a burden to many. During this time their complaints keep on accumulating gradually and the arrow of complaint gets fixed to a certain direction.

Anger, criticism, negligence etc. towards the patient keep on increasing, resulting in the patient to reach almost the condition of getting abandoned. In many cases a sense of guilt that the patient is being neglected may show up in the family members, consequently they may take care of the patient too much. But this situation does not last. In the language of psychiatry these issues are known as 'expressed emotion'. In this matter the main duty of the psychiatrist is to prepare the family from all aspects.

People who have got the help from Dhirendranath after getting into this kind of problem know how great human being he was. I assume that it is not possible to acquire this ability without loving the people deeply.

It is harmful both in case of this 'expressed emotion' being more or less. It has been

noticed that the patient's disease takes time to get cured or it quickly comes back even after initially getting cured, if the manifestation of this type of emotion doesn't exist or exists at a large amount. So in those cases where Dhirendranath used to understand that there is no other reason of the disease not getting cured, he used to repeatedly investigate the issue of this expressed emotion.

Eventually his last weapon was to patiently make a sense of consideration inside the folks at home, regarding last the patient's disease. There is nothing one can do in excess in this regard, again whatever is appropriate has to be done – he used to make them understand this. In this context he used to always suggest us that the physician must always notice this matter and admire the folks at home that the patient's family is making a great sacrifice with such a psychiatric patient. And it is needless to say that the entire pressure of the family falls on the women, consequently these very people have to become the most distressed.

Every parent doesn't appear to be equally responsible in the matter of behaving with their children. Certain parents can very quickly realize the problem of the young ones and take quick measure. Again certain parents take a long time even to understand the matter or many can not understand at all. However the young ones are provided with safety from their parents; consequently a huge portion of their problem is created surrounding this safety.

It has been noticed that the parents roughly behave in three ways in case of guiding the young ones. In one of them it can be noticed that authoritative parents don't agree to give their children the minimum freedom. The other group becomes disinterested and perhaps indifferent to the children. In that case it becomes evident that there is no authority from the parents and the children are growing up in their own way. This has a positive aspect as well as enough possibility of making the children promiscuous also due to this reason. In another moderate type it can be noticed that the parents govern the children adequately; but they also give the children freedom. Naturally Dhirendranath used to like this type. It can be also called as the Aristotlean 'Golden Mean'.

However he used to give suggestions to the parents in the matter of mixing up like friends when the children had grown up. In this matter he was very fond of the verses of Chanakya's 'Arthashastra'. On many occasions it becomes evident that at the time of their conflict the couples in order to gain in strength take the help of the children (tranguation).

He extremely disliked this behaviour of the couples and used to rebuke them in this matter like a guardian. Because we always notice that the conflict within a couple develop different types of negative training in the mind of the young ones. Also there are the problems of the children of the divorcee, widow and so on.

In this context we have to remember that the parents used to come to him for counselling, with various adolescence problems of many a normal teenage boys and girls. Having thought that this problem is growing everybody and will continue to do so he had undertaken a line of action to train the parents; but that didn't work properly.

The couples too used to come to Dhirendranath with their different personal problems. Perhaps none of them is sick; but they are not having good terms between them. The events start with criticizing increases. Thereafter comes complaining about each other and from thereon any one perhaps got shut up in a self-defensive technique. He or she no more wants to give any answer to the allegations by the other in any way, he even doesn't wish to have any discussion (stone-walling).

The women especially the working women suffer a lot to carry on with this kind of unhappy marital-life. The conflict concerning trivial matters within their own selves possibly reaches its

high. On many occasions it becomes evident that, enough pain has been accumulated inside their mind; but before the outside world they have to express that they have no pain.

Consequently this pain is increasing further! The relationship between a couple is such that there remains a place for hope and faith, where the other would always give proof that he or she loves. It is not surprising even for violent behaviour to take place accidentally from anger in this matter. In this regard men and women have come to him with numerous problems of romantic love. He has behaved wonderfully like a professional physician with each of them without belittling anyone.

As if in these issues his suggestions used to work like hymns. The diseased used to get enough comfort for the heart from this. It should be rather said that he used to evaluate the incidents of violent behaviour in the family with extreme importance. Any kind of problem of physical torcher in the family used to get the highest preference to him. Generally the women initially did not wish to speak about these incidents; but he with his splendid power used to become a friend of that woman within a short period. Consequently he could know everything. When he needed, he used to scare and also administer the male.

Many parents used to appear with the problems of the relationship between the siblings. In that case Dhirendranath used to caution the parents about their bad role played in the matters such as comparing the children among themselves, giving indulgence to one before the other, making an unhealthy competition among their own selves and so on. It was noticed that, in majority of the cases the parents are wrongly directing the children or are failing to take control of them.

On many occasions, when it becomes evident that some of them had to fall in such trouble in their childhood, in those cases the parents become quite sympathetic towards their children. On several occasions one got to hear such complaint from him that, the parents with their wrong training and pride are spoiling the relationship between the children. At times the situation used to become so complicated that even he used to fall in troubled waters and later on used to admit it is not easy to untie this knot.

Towards the end he often used to say this thing that, "Boys and girls of the modern age lead a far more complicated life and think in a more complicated way. In our times the life was pretty much simple and straight."

Family therapy

According to Dhirendranath's words it is like letting action-reaction with the family-members happen, in order to raise the standard of living of the family. As a result of this the deterioration which has occurred in the interhuman relationship among the family members can be largely corrected or each become compassionate towards the other. This can be done for any member of the family; but in general this family-therapy is very essential for the children. Because it remains impossible to understand the children or take any measure for them if the entire family is not involved. Dhirendranath opined that the psychiatrist would judge with his experience how it is possible to take measure in each case. Because there is no hard and fast or ideal model in this matter. He used to prefer the term 'family treatment' much more than family therapy. We know that, inclusion of the family is needed during the treatment of a child-adolescent. Because each member of a family has a separate role in the matter of the growth and development of the child. Therefore from a common sense it can be understood that the possibility of gaining profit is much more if the entire family is brought under the purview of treatment in this matter. However it is also true that the problems may increase instead of

reducing if it is not conducted properly. He used to notice in which places resistance is being felt in this matter, where in the family there are negative teachings, what kind of sense of responsibility the family members have towards the family etc.. However, his mentality in this regard can be briefly stated with a few words of the following type. 1. This treatment has no specific model. Consequently whoever would work has to take measure realizing the situation at that time. 2. In this case it is not possible to treat any diseased condition of the entire family. 3. One has to find out element of illness if there is any in the family and one has to also think whether these problems are being made out of those elements. 4. The issues are very complicated and incomprehensible, so it is better not to expect that any result would be obtained quickly. It should be even assumed that, it would take time to bear fruit. 5. In this case one has to give importance to the ineffective state of the family as a whole, instead of giving importance to the elements of one or two diseases separately.

We did not have the ability to tell in the form of arranged information, exactly in which ways we have succeeded in family therapy. As a result we had not been able to say emphatically that the achievement of success in these issues is ours. However it's true that we had been able to alleviate many trivial matters and the negative teachings by the family members through this. We used to notice one more important matter that, we are ourselves getting educated through it, immaterial of anything else has happened or not. In these issues Dhirendranath had a caution-word, "Maintain the confidentiality and open your mouth only after knowing the cultural pattern of the family."

Counselling and Psychotherapy

Dhirendranath was used to hear the term counselling to a great extent towards the end of his career. A patient or the folks at his home perhaps used to come directly and say that he or they wish to go for a counselling. Perhaps somebody used to inquire directly, "Do you perform counselling?" Initially he did not give that importance to those words; but later on he had to deviate from this position. One day we thus needed to clearly discuss within ourselves that, what is the difference between psychotherapy and counselling, what on earth we do? His opinion in this matter was such that, these two issues can not be differentiated, because it is a continuous process. There is no qualitative difference between them, certainly there are quantitative differences. That is we have to accordingly try to provide help to whoever requiring whatever suggestions. Nevertheless it is somehow true that, there is a smell of treatment in psychotherapy, in comparison with that as if something like advice, consultation and so on is meant through counselling. Moreover in the words of modern psychology as if the issue of emotional problem is considered with importance through psychotherapy. On the other hand the knowledge-based problems are as if given more importance through counselling. Besides that counselling is a very elaborate subject i.e. it can be initiated following any problem. But there is a definite goal in psychotherapy. And the Westerners say that the personality and dignity of the counsellor often influence the counselling. But everything used to get mixed up uniformly through whatever he used to do in reality.

People belonging to different socio-economic-cultural structure used to arrive before him with many a strange problems. It would never be proper to name them as mental diseases; but those were undoubtedly a number of reality-based problems. And we used to witness that he was saving the family by mediating for many such problems. In such cases his aim used to be to reduce people's pains to the best possible extent. The technicians of the so-called Behaviour Therapy and that of Philosophy used to get considered as workers of the same level

by him. He wished that the society should become better and fair and for that we have to do whatever is needed. If the situation could not be changed, then we ourselves have to tolerate that. That's why when need arised he used to try to influence the patient or the folks at his home emphatically with these opinions during giving suggestions or through ordinary conversation. He used to make the patient understand how he could proceed to change his situation. When need arised he even used to say harsh words to them wishing their welfare. Most people used to whole-heartedly accept this counselling or psychotherapy done by him. **P A S**

The Concept of the Ideal

E.V. Iiyenkov

Before discussing the *concept* itself we must first consider the *terms* "ideal" and "ideality", that is to say, we must first define the range of phenomena to which these terms may be applied, without analysing the essence of these phenomena at this point.

Even this is not an easy task because usage in general, and scientific usage in particular, is always something derivative of that very "understanding of the essence of the question" whose exposition our definition is intended to serve. The difficulty is by no means peculiar to the given case. It arises whenever we discuss fairly complex matters regarding which there is no generally accepted interpretation and, consequently, no clear definition of the limits of the object under discussion. In such cases discussion on the point at issue turns into an argument about the "meaning of the term", the limits of a particular designation and, hence, about the formal attributes of phenomena that have to be taken into consideration in a theoretical examination of the essence of the question.

Returning to the subject of the "ideal", it must be acknowledge that the word "ideal" is used today mainly as a synonym for "conceivable", as the name for phenomena that are "immanent in the consciousness", phenomena that are represented, imagined or thought. If we accept this fairly stable connotation, it follows that there is no point in talking about any "ideality" of phenomena existing outside human consciousness. Given this definition, everything that exists "outside the consciousness" and is perceived as existing outside it is a material and only a material object.

At first sight this use of the term seems to be the only reasonable one. But this is only at first sight.

Of course, it would be absurd and quite inadmissible from the standpoint of any type of materialism to talk about anything "ideal" where no thinking individual ("thinking" in the sense of "mental" or "brain" activity) is involved. "Ideality" is a category inseparably linked with the notion that human culture, human life activity is purposeful and, therefore, includes the activity of the human brain, consciousness and will. This is axiomatic and Marx, when contrasting his position regarding the "ideal" to Hegel's view, writes that the ideal is "nothing else than the material world reflected by the human mind, and translated into forms of thought". [*Capital*, Vol. I, Moscow, 1974, p.29]

It does not follow from this, however, that in the language of modern materialism the term "ideal" equals "existing in the consciousness", that it is the name reserved for phenomena located in the head, in the brain tissue, where, according to the ideas of modern science, "consciousness" is realised.

In *Capital* Marx defines the *form of value in general* as “purely ideal” not on the grounds that it exists only “in the consciousness”, only in the head of the commodity-owner, but on quite opposite grounds. The price or the money form of value, like any form of value in general, is IDEAL because it is totally distinct from the palpable, corporeal form of commodity in which it is *presented*, we read in the chapter on “Money”. [*Capital*, Vol. I, pp.98-99.]

In other words, the form of value is IDEAL, although it exists outside human consciousness and independently of it.

This use of the term may perplex the reader who is accustomed to the terminology of popular essays on materialism and the relationship of the material to the “ideal”. The ideal that exists outside people’s heads and consciousness, as something completely objective, a reality of a special kind that is independent of their consciousness and will, invisible, impalpable and sensuously imperceptible, may seem to them something that is only “imagined”, something “suprasensuous”.

The more sophisticated reader may, perhaps, suspect Marx of an unnecessary flirtation with Hegelian terminology, with the “semantic tradition” associated with the names of Plato, Schelling and Hegel, typical representatives of “objective idealism”, i.e., of a conception according to which the “ideal” exists as a special world of incorporeal entities (“ideas”) that is outside and independent of man. He will be inclined to reproach Marx for an unjustified or “incorrect” use of the term “ideal”, of Hegelian “hypostatisation” of the phenomena of the consciousness and other mortal sins, quite unforgivable in a materialist.

But the question is not so simple as that. It is not a matter of terminology at all. But since terminology plays a most important role in science, Marx uses the term “ideal” in a sense that is close to the “Hegelian” interpretation just because it contains far more meaning than does the popular pseudomaterialistic understanding of the ideal as a phenomenon of consciousness, as a purely mental function. The point is that intelligent (dialectical) idealism – the idealism of Plato and Hegel – is far nearer the truth than popular materialism of the superficial and vulgar type (what Lenin called silly materialism). In the Hegelian system, even though in inverted form, the fact of the dialectical transformation of the ideal into the material and vice versa was theoretically expressed, a fact that was never suspected by “silly” materialism, which had got stuck on the crude – undialectical – opposition of “things outside the consciousness” to “things inside the consciousness”, of the “material” to the “ideal”.

The “popular” understanding of the ideal cannot imagine what insidious traps the dialectics of these categories has laid for it in the given case.

Marx, on the other hand, who had been through the testing school of Hegelian dialectics, discerned this flaw of the “popular” materialists. His materialism had been enriched by all the achievements of philosophical thought from Kant to Hegel. This explains the fact that in the Hegelian notion of the ideal structure of the universe existing outside the human head and outside the consciousness, he was able to see not simply “idealistic nonsense”, not simply a philosophical version of the religious fairy-tales about God (and this is all that vulgar materialism sees in the Hegelian conception), but an idealistically inverted description of the actual relationship of the “mind to Nature”, of the “ideal to the material”, of “thought to being”. This also found its expression in terminology.

We must, therefore, briefly consider the history of the term “ideal” in the development of German classical philosophy from Kant to Hegel, and the moral that the “intelligent” (i.e., dialectical) materialist Marx was able to draw from this history.

It all began when the founder of German classical philosophy, Immanuel Kant, took as his point of departure the “popular” interpretation of the concepts of the “ideal” and the “real” without suspecting what pitfalls he had thus prepared for himself.

It is notable that in his *Critique of Pure Reason* Kant does not formulate his understanding of “ideality”, but uses this term as a ready-made predicate requiring no special explanation when he is defining space and time and speaking of their “transcendental *ideality*”. This means that “things” possess space-time determinacy only in the consciousness and thanks to the consciousness, but not in themselves, outside and before their appearance in the consciousness. Here “ideality” is clearly understood as a synonym for the “pure” and the *a priori* nature of consciousness as *such*, with no external connections. Kant attaches no other meaning to the term “ideality”.

On the other hand, the “material” element of cognition is achieved by sensations, which assure us of the *existence* (and only that!) of things *outside consciousness*. Thus, all we know about “things in themselves” is that they “exist”. The ideal is what exists exclusively in the consciousness and thanks to the activity of the consciousness. And conversely, that which exists only in consciousness is characterised as the “ideal”. All clear and simple. A perfectly popular distinction. And what it amounts to is that none of the facts we know and are aware of in things – their colour, geometrical form, taste, causal interdependence – may be attributed to the things themselves. All these are merely attributes provided by our own organisation, and not those of the things. In other words, the “ideal” is everything that we know about the world except the bare fact of its “existence”, its “being outside consciousness”. The latter is non-ideal and, therefore, inaccessible to consciousness and knowledge, transcendental, alien, and awareness of the fact that things, apart from anything else, also “exist” (outside the consciousness) adds nothing whatever to *our knowledge* of them. And it is this interpretation that Kant illustrates with his famous example of the talers. It is one thing, he writes, to have a hundred talers in one’s pocket, and quite another thing to have them only in one’s consciousness, only in imagination, only in dreams (i.e., from the standpoint of popular usage, only “ideal” talers).

In Kant’s philosophy this example plays an extremely important role as one of the arguments against the so-called “ontological proof of the existence of God”. His argument runs as follows. It cannot be inferred from the existence of an object *in the consciousness* that the object exists *outside the consciousness*. God exists in people’s consciousness but it does not follow from this that God exists “in fact”, outside consciousness. After all, there are all kinds of things in people’s consciousness! Centaurs, witches, ghosts, dragons with seven heads ...

With this example, however, Kant gets himself into a very difficult position. In fact, in a neighbouring country where the currency was not talers but rubles or francs it would have been simply explained to him that he had in his pocket not “real talers” but only pieces of paper with symbols carrying an obligation only for Prussian subjects ... However, if one acknowledges as “real” only what is authorised by the decrees of the Prussian king and affirmed by his signature and seal, Kant’s example proves what Kant wanted it to prove. If, on the other hand, one has a somewhat wider notion of the “real” and the “ideal”, which Kant declared to be a typical example of the erroneous inferring of the existence of a prototype outside the consciousness from the existence of the type in the consciousness.

“The contrary is true. Kant’s example might have enforced the ontological proof,” wrote Marx, who held a far more radical atheistic position than Kant in relation to “God”. And he went

on: "Real talers have the same existence that the imagined gods have. Has a real taler any existence except in the imagination, if only in the general or rather common imagination of man? Bring paper money into a country where this use of paper is unknown, and everyone will laugh at your subjective imagination." [Karl Marx, Frederick Engels, *Collected Works*, Vol.1, Moscow, 1975, p. 104]

The reproach aimed at Kant does not, of course, derive from a desire to change the meaning of the terms "ideal" and "real" after the Hegelian fashion. Marx bases his argument on realisation of the fact that a philosophical system which denotes as "real" everything that man perceives as a thing existing outside his own consciousness, and "ideal" everything that is not perceived in the form of such a thing, cannot draw critical distinctions between the most fundamental illusions and errors of the human race.

It is quite true that the "real talers" are in no way different from the gods of the primitive religions, from the crude fetishes of the savage who worships (precisely as his "god"!) an absolutely real and actual piece of stone, bronze idol or any other similar "external object". The savage does not by any means regard the object of his worship a *symbol* of "God"; for him this object in all its crude sensuously perceptible corporeality is God, God himself, and no mere "representation" of him.

The very essence of fetishism is that it attributes to the object in its immediately perceptible form properties that in fact do not belong to it and have nothing in common with its sensuously perceptible external appearance.

When such an object (stone or bronze idol, etc.) ceases to be regarded as "God himself" and acquires the meaning of an "external symbol" of this God, when it is perceived not as the immediate subject of the action ascribed to it, but merely as a "symbol" of something else outwardly in no way resembling the symbol, then man's consciousness takes a step forward on the path to understanding the essence of things.

For this reason Kant himself and Hegel, who is completely in agreement with him on this point, consider the Protestant version of Christianity to be a higher stage in the development of the religious consciousness than the archaic Catholicism, which had, indeed, not progressed very far from the primitive fetishism of the idol-worshippers. The very things that distinguishes the Catholic from the Protestant is that the Catholic tends to take everything depicted in religious paintings and Bible stories *literally*, as an exact representation of events that occurred in "the external world" (God as a benevolent old man with a beard and a shining halo round his head, the birth of Eve as the actual conversion of Adam's rib into a human being, etc.). The Protestant, on the other hand, seeing "idolatry" in this interpretation, regards such events as allegories that have an "internal", purely ideal, moral meaning.

The Hegelians did, in fact, reproach Kant for playing into the hands of Catholic idolatry with his example of the talers, for arguing against his own Protestant sympathies and attitudes because the "external talers" (the talers in his pocket) were only symbols in the general or rather common imagination of man", were only representatives (forms of external expression, embodiment) of the "spirit", just as religious paintings, despite their sensuously perceptible reality, were only images produced by human social self-consciousness, by the human spirit. In their essence they were entirely ideal, although in their existence they were substantial, material and were located, of course, outside the human head, outside the consciousness of the individual, outside individual mental activity with its transcendental mechanisms.

"Gods" and "talers" are phenomena of the same order, Hegel and the Hegelians declared,

and by this comparison the problem of the "ideal" and its relationship to the "real", to the materially substantial word was posited in a way quite different from that of Kant. It was associated with the problem of "alienation", with the question of "reification" and "de-reification", of man's "re-assimilation" of objects created by himself, objects that through the action of some mysterious processes had been transformed into a world not only of "external" *objective* formations but formations that were also hostile to man.

Hence comes the following interpretation of Kant's problem: "The proofs of the existence of God are either mere *hollow tautologies*. Take for instance the ontological proof. This only means: 'that which I conceive for myself in a real way (*realiter*) is a real concept for me', something that works on me. In this sense *all gods*, the pagan as well as the Christian ones, have possessed a real existence. Did not the ancient Moloch reign? Was not the Delphic Apollo a real power in the life of the Greeks? Kant's critique means nothing in this respect. If somebody imagines that he has a hundred talers, if this concept is not for him an arbitrary, subjective one, if he believes in it then these hundred imagined talers have for him the same value as a hundred real ones. For instance, he will incur debts on the strength of his imagination, his imagination will *work, in the same way as all humanity has incurred debts on its gods*," [Karl Marx, Frederick Engels, *Collected Works*, Vol. I, Moscow, 1975, p.104]

When the question was posited in this way the category of the "ideal" acquired quite a different meaning from that given to it by Kant, and this was by no means due to some terminological whim of Hegel and the Hegelians. It expressed the obvious fact that social consciousness is not simply the many times repeated individual consciousness (just as the social organism in general is not the many times repeated individual human organism), but is, in fact, a historically formed and historically developing system of "objective notions", forms and patterns of the "objective spirit", of the "collective reason" of *mankind* (or more directly, "the people" with its inimitable spiritual culture), all this being quite independent of individual caprices of consciousness or will. This system comprises all the general moral norms regulating people's daily lives, the legal precepts, the forms of state – political organisation of life, the ritually legitimised patterns of activity in all spheres, the "rules" of life that must be obeyed by all, the strict regulations of the guilds, and so on and so forth, up to and including the grammatical and syntactical structures of speech and language and the logical norms of reasoning.

All these structural forms patterns of social consciousness unambiguously oppose the individual consciousness and will as a special, internally organised "reality", as the completely "external" forms determining that consciousness and will. It is a fact that every individual must from childhood reckon far more carefully with demands and restrictions than with the immediately perceptible appearance of external "things" and situations or the organic attractions, desires and needs of his individual body.

It is equally obvious that all these externally imposed patterns and forms cannot be identified in the individual consciousness as "innate" patterns. They are all *assimilated* in the course of upbringing and education – that is, in the course of the individual's assimilation of the intellectual culture that is available and that took shape before him, without him and independently of him – as the patterns and forms of *that* culture. These are no "immanent" forms of individual mental activity. They are the forms of the "other", external "subject" that it assimilates.

This is why Hegel sees the main advantage of Plato's teaching in the fact that the question of the relationship of "spirit" to "nature" is for the first time posited not on the narrow

basis of the relations of the "individual soul" to "everything else", but on the basis of an investigation of the universal (social-collective) "world of ideas" as opposed to the "world of things". In Plato's doctrine "... the reality of the spirit, insofar as it is opposed to nature, is presented in its highest truth, presented as the organisation of a state". [G.W.F. Hegel, *Samtliche Werke*, Bd. 18, Stuttgart, 1928, S. 269.]

Here it must be observed that by the term "state" Plato understood not only the political and legal superstructure, but also the sum-total of social rules regulating the life of individuals within an organised society, the "polis", or any similar formation, everything that is now implied by the broader term "culture".

It is from Plato, therefore, that the tradition arises of examining the *world of ideas* (he, in fact, gives us the concept of the "ideal world") as stable and internally organised world of laws, rules and patterns controlling the individual's mental activity, the "individual soul", as a special, supernatural "objective reality" standing in opposition to every individual and imperatively dictating to the individual how he should act in any given situation. The immediate "external" force determining to the individual how he should act in any given situation. The immediate "external" force determining the conduct of the individual is the "state", which protects the whole system of spiritual culture, the whole system of rights and obligations of every citizen.

Here, in a semi-mystical, semi-mythological form was clearly established a perfectly real fact, the fact of the dependence of the mental (and not only mental) activity of the individual on the system of culture established before him and completely independently of him, a system in which the "spiritual life" of every individual begins and runs its course.

The question of the relationship of the "ideal" to the "substantially material" was here presented as a question of the relationship of these stable forms (patterns, stereotypes) of culture to the world of "individual things", which included not only "external things", but also the physical body of man himself.

As a matter of fact, it was only here that the necessity arose for a clear definition of the category of "ideality" as opposed to the undifferentiated, vague notion of the "psyche" in general, which might equally well be interpreted as a wholly corporeal function of the physically interpreted "soul", no matter to what organ this function was actually ascribed – heart, liver or brain. Otherwise, "ideality" remains a superfluous and completely unnecessary verbal label for the "psychic". This is what it was before Plato, the term "idea" being used, even by Democritus, to designate a completely substantial form, the geometrical outlines of a "thing", a body, which was quite physically impressed on man, in the physical body of his eyes. This usage which was characteristic of the early, naive form of materialism cannot, of course, be used by the materialism of today, which takes into consideration all the complexity of the relationships between individual mental activity and the "world of things".

For this reason in the vocabulary of modern materialistic psychology (and not only philosophy) the category of "ideality" or the "ideal" defines not mental activity in general, but only a certain phenomenon connected, of course, with mental activity, but by no means merging with it.

"*Ideality* mainly characterises the idea or image insofar as they, becoming objectivised in words "[entering into the system of socially evolved knowledge which for the individual is something that is given for him. – E. I.], "in objective reality, thus acquire a relative independence, separating themselves, as it were, from the mental activity of the individual," writes the Soviet psychologist S.L. Rubinstein. [*Bytie i soznanie* (Being and Consciousness), Moscow, 1957, p.41]

Only in this interpretation does the category of "ideality" become a specifically meaningful definition of a certain category of phenomena, establishing the form of the process of reflection of objective reality in mental activity, which is social and human in its origin and essence, in the social-human consciousness, and ceases to be an unnecessary synonym for mental activity in general.

With reference to the quotation from S.L. Rubinstein's book it need only be observed that the image is objectivised not only in words, and may enter into the system of socially evolved knowledge not only in its verbal expression. The image is objectivised just as well (and even more directly) in sculptural, graphic and plastic forms and in the form of the routine-ritual ways of dealing with things and people, so that it is expressed not only in words, in speech and language, but also in drawings, models and such symbolic objects as coats of arms, banners, dress, utensils, or as money, including gold coins and paper money, IOUs, bonds or credit notes.

"Ideality" in general is in the historically formed language of philosophy a characteristic of the *materially established* (objectivised, materialised, reified) *images of human social culture*, that is, the historically formed modes of human social life, which confront the individual possessing consciousness and will as a special "supernatural" objective reality, as a special *object* comparable with material reality and situated on one and the same spatial plane (and hence often identified with it).

For this reason, purely for the sake of terminological accuracy, it is pointless to apply this definition to purely individual mental states at any given moment. The latter, with all their individually unique whims and variations, are determined in effect by the numerous interconnections of the most diverse factors up to and including transient states of the organism and the peculiar features of its biochemical reactions (such as allergy or colour-blindness, for instance), and, therefore, may be considered on the plane of social-human culture as purely accidental.

This is why we find Kant talking about the "ideality of space and time", but not about the "ideality" of the conscious sensations of weight, for instance, in the muscles of the arm when one is carrying something; about the "ideality" of the chain of cause and effect, but not about the ideality of the fact that a rock with the sun shining on it becomes warmer (although this fact is also consciously perceived). In Kant "ideality" becomes a synonym for the "transcendental character" of universal forms of sensuousness and reason, that is, patterns of cognitive activity that are inherent in every "self" and thus have a completely impersonal character and display, moreover, a compulsive force in relation to each separate ("empirical") "self". This is why space and time, causal dependence and "beauty" are for Kant "ideal", while they are not mental states connected with the unique and transitory physical states of the individual's body. Admittedly, as we have seen in the example of the "talers", Kant does not always adhere strictly to his terminology, although the reason for this is certainly not carelessness (it would be difficult to reproach Kant for that), but rather the dialectical trickiness of the problems that he raises. But despite the instability of the terminological definition of the categories, their objective dialectical content begins to show through – the very content that the Hegelian school provides with a far more adequate definition. The point is that Kant could not fully overcome the notion of "social consciousness" ("universal spirit") as the many times repeated individual consciousness.

In Hegelian philosophy, however, the problem was stated in a fundamentally different way. The social organism (the "culture" of the given people) is by no means an abstraction express-

ing the "sameness" that may be discovered in the mentality of every individual, an "abstract" inherent in each individual, the "transcendentally psychological" pattern of individual life activity. The historically built up and developing forms of the "universal spirit" ("the spirit of the people", the "objective spirit"), although still understood by Hegel as certain stable patterns within whose framework the mental activity of every individual proceeds, are none the less regarded by him not as formal abstractions, not as abstractly universal "attributes" inherent in every individual, taken separately. Hegel (following Rousseau with his distinction between the "general will" and the "universal will") fully takes into account the obvious fact that in the diverse collisions of differently orientated "individual wills" certain results are born and crystallised which were never contained in any of them separately, and that because of this *social consciousness* as an "entity" is certainly not built up, as of bricks, from the "sameness" to be found in each of its "parts" (individual selves, individual consciousnesses). And this is where we are shown the path to an understanding of the fact that all the patterns which Kant defined as "transcendentally inborn" forms of operations of the individual mentality, as a priori "internal mechanisms" inherent in every mentality, are actually forms of the self-consciousness of *social man assimilated from without* by the individual (originally they opposed him as "external" patterns of the movement of culture independent of his will and consciousness), social man being understood as the historically developing "aggregate of all social relations".

It is these forms of the organisation of social (collectively realised) human life activity that exist *before, outside and completely independently* of the individual mentality, in one way or another materially established in language, in ritually legitimised customs and rights and, further, as "the organisation of a state" with all its material attributes and organs for the protection of the traditional forms of life that stand in opposition to the individual (the physical body of the individual with his brain, liver, heart, hands and other organs) as an entity organised "in itself and for itself", as something ideal within which all individual things acquire a different meaning and play a different role from that which they had played "as themselves", that is, outside this entity. For this reason the "ideal" definition of any thing, or the definition of any thing as a "disappearing" moment in the movement of the "ideal world", coincides in Hegel with the role and meaning of this things in social human culture, in the context of socially organised human life activity, and not in the individual consciousness, which is here regarded as something derived from the "universal spirit".

It will readily be appreciated how much broader and more profound such a positing of the question is in comparison with any conception that designates as "ideal" everything that is "in the consciousness of the individual", and "material" or "real", everything that is outside the consciousness of the individual, everything that the given individual is *not conscious of*, although this "everything" does exist in reality, and thus draws between the "ideal" and the "real" a fundamentally dividing line which turns them into "different worlds" that have "nothing in common" with each other. It is clear that, given such a metaphysical division and delimitation, the "ideal" and the "material" cannot and must not be regarded as opposites. Here they are "different", and that is all.

Hegel proceeds from the quite obvious fact that for the consciousness of the individual the "real" and even the "crudely material" – certainly not the "ideal" – is at first the whole grandiose *materially established spiritual culture of the human race*, within which and by the assimilation of which this individual awakens to "self-consciousness". It is this that confronts the individual as the thought of preceding generation realised ("reified", "objectified") in

sensuously perceptible "matter" – in language and visually perceptible images, in books and statues, in wood and bronze, in the form of places of worship and instruments of labour, in the designs of machines and state buildings, in the patterns of scientific and moral systems, and so on. All these objects are in their existence, in their "present being" substantial, "material" but in their essence, in their origin they are "ideal", because they "embody" the collective thinking of people, the "universal spirit" of mankind.

In other words, Hegel includes in the concept of the "ideal" everything that another representative of idealism in philosophy (admittedly he never acknowledged himself to be an "idealist") A. A. Bogdanov – a century later designated as "socially organised experience" with its stable, historically crystallised patterns, standards, stereotypes, and "algorithms". The feature which both Hegel and Bogdanov have in common (as "idealists") is the notion that this world of "socially organised experience" is for the individual the sole "object" which he "assimilates" and "cognises", the sole object with which he has any dealings.

But the world existing before, outside and independently of the consciousness and will *in general* (i.e., not only of the consciousness and will of the *individual but* also of the social organised "will"), the world as such, is taken into account by this conception only insofar as it finds expression in universal forms of consciousness and will, insofar as it is already "idealised", already assimilated in "experience", already presented in the patterns and forms of this "experience", already included therein.

By this twist of thought, which characterises idealism in general (whether it is Platonic, Berkeleyan, Hegelian or that of Popper), the real material world, existing before, outside and quite independently of "experience" and before being expressed in the forms of this "experience" (including language), is totally removed from the field of vision, and what begins to figure under the designation of the "real world" is an already "idealised" world, a world already assimilated by people, a world already shaped by their activity, the world *as people know it*, as it is presented in the existing forms of their culture. A world already expressed (presented) in the forms of the existing human experience. And this world is declared to be the only world about which anything at all can be said.

This secret of idealism shows up transparently in Hegel's discussion of the "ideality" of natural phenomena, in his presentation of nature as an "ideal" being in itself. Underlying what he has to say about certain natural phenomena is their description in the concepts and terms of the physics of his day: "... because masses push and crush each other and there is no vacuum between them, it is only in this contact that the ideality of matter in general begins, and it is interesting to see how this intrinsic character of matter emerges, for in general it is always interesting to see the realisation of a concept." [G.W.F. Hegel, *Samtliche Werke*, Bd. 9, Stuttgart, S. 101.] Here Hegel is really speaking not at all about nature as it is, but about nature as it is presented (described) in the system of a definite physical theory, in the system of its definitions established by its historically formed "language".

It is this fact, incidentally, that explains the persistent survival of such "semantic substitutions"; indeed, when we *are talking* about nature, we are obliged to make use of the available language of natural science, the "language of science" with its established and generally understood "meanings". It is this, specifically, which forms the basis of the arguments of logical positivism, which quite consciously identifies "nature" with the "language" in which people talk and write about nature.

It will be appreciated that the main difficulty and, therefore, the main problem of philosophy

is not to distinguish and counterpose everything that is "in the consciousness of the individual" to everything that is outside this individual consciousness (this is hardly ever difficult to do), but to delimit the world of collectively acknowledged notions, that is the whole socially organised world of intellectual culture with all its stable and materially established universal patterns, and the real world as it exists outside and apart from its expression in these socially legitimised forms of "experience".

It is here and only here that the distinction between the "ideal" and the "real" ("material") acquires a serious scientific meaning because in practice the two are usually confused. Pointing out the fact that the thing and the form of the thing exist outside the individual consciousness and do not depend on individual will still does not solve the problem of their objectivity in its fully materialistic sense. And conversely, by no means all that people do not know, are unaware of, not perceive as the forms of external things, is invention, the play of the imagination, a notion that exists merely in man's head. It is because of this that the "sensible person", to whose way of thinking Kant appeals with his example of the talers, is more often than other people deluded into taking the collectively acknowledged notions for objective reality, and the objective reality revealed by scientific research for subjective invention existing only in the heads of the "theoreticians". It is the "sensible person", daily observing the sun rising in the East and setting in the West, who protests that the system of Copernicus is an invention that contradicts the "obvious facts". And in exactly the same way the ordinary person, drawn into the the orbit of commodity-money relationships, regards money as a perfectly *material* thing, and value, which in fact finds its external expression in money, as a mere abstraction existing only in the heads of the theoreticians, only "ideally".

For this reason consistent materialism, faced with this kind of situation, could not define the "ideal" as that which exists in the consciousness of the individual, and the "material" as that which exists outside this consciousness, as the sensuously perceived form of the external things, as a real corporeal form. The boundary between the two, between the "material" and the "ideal", between the "thing in itself" and its representation in social consciousness could not pass along this line because, if it did, materialism would be completely helpless when confronted with the dialectics that Hegel had discovered in the relations between the "material" and the "ideal" (particularly, in the phenomena of fetishism of all kinds, from that of religion to that of that of commodity, and further, the fetishism of words, of language, symbols and signs).

It is a fact that like the icon or the gold coin, any *word* (term or combination of terms) is primarily a "thing" that exists outside the consciousness of the individual, possesses perfectly real bodily properties and is sensuously perceived. According to the old classification accepted by everyone, including Kant, words clearly come under the category of the "material" with just as much justification as stones or flowers, bread or a bottle of wine, the guillotine or the printing press. Surely then, in contrast to these things, what we call the "ideal" is their subjective image in the head of the individual, in the individual consciousness.

But here we are immediately confronted with the trickiness of this distinction, which is fully provided for by the Hegelian school and its conception of the "materialisation", the "alienation", the "reification" of universal notions. As a result of this process which takes place "behind the back of the individual consciousness", the individual is confronted in the form of an "external thing" with people's general (i.e., collectively acknowledged) *representation*, which has absolutely nothing in common with the sensuously perceived bodily form in which it is "represented".

For example, the name "Peter" is in its sensuously perceived bodily form absolutely unlike

the real Peter, the person it designates, or the sensuously represented image of Peter which other people have of him. The relationship is the same between the gold coin and the goods that can be bought with it, goods (commodities), whose universal *representative* is the coin or (later) the banknote. The coin represents *not itself* but "another" in the very sense in which a diplomat represents not his own person but his country, which has authorised him to do so. The same may be said of the word, the verbal symbol or sign, or any combination of such signs and the syntactical pattern of this combination.

This relationship of *representation* is a relationship in which one sensuously perceived thing performs the role or function of representative of quite another thing, and, to be even more precise, the universal nature of that other thing, that is, something "other" which in sensuous, bodily terms is quite unlike it, and it was this relationship that in the Hegelian terminological tradition acquired the title of "ideality".

In *Capital* Marx quite consciously uses the term "ideal" in this formal meaning that it was given by Hegel, and not in the sense in which it was used by the whole pre-Hegelian tradition, including Kant, although the philosophical-theoretical interpretation of the range of phenomena which in both cases is similarly designated "ideal" is diametrically opposed to its Hegelian interpretation. The meaning of the term "ideal" in Marx and Hegel is the same, but the concepts, i.e., the ways of understanding this "same" meaning are profoundly different. After all, the word "concept" in dialectically interpreted logic is a synonym for *understanding of the essence of the matter*, the essence of phenomena which are only outlined by a given term; it is by no means a synonym for "the meaning of the term", which may be formally interpreted as the sum-total of "attributes" of the phenomena to which the term is applied.

It was for this reason that Marx, like any genuine theoretician, preferred not to change the historically formed "meanings of terms", the established nomenclature of phenomena, but, while making strict and rigorous use of it, proposed a quite different *understanding of* these phenomena that was actually the opposite of the traditional understanding.

In *Capital*, when analysing money – that familiar and yet mysterious category of social phenomena – Marx describes as "ideal" nothing more or less than the value-form of the products of labour in general (*die Wertform überhaupt*).

So the reader for whom the term "ideal" is a synonym for the "immanent in the consciousness", "existing only in the consciousness", "only in people's ideas", only in their "imagination" will misunderstand the idea expressed by Marx because in this case it turns out that even capital – which is nothing else but a *value-form* of the organisation of the productive forces, a form of the functioning of the means of production – also exists only in the consciousness, only in people's subjective imagination, and "not in reality".

Obviously only a follower of Berkeley could take the point in this way, and certainly not a materialist.

According to Marx, the ideality of the form of value consists not, of course, in the fact that this form represents a mental phenomenon existing only in the brain of the commodity-owner or theoretician, but in the fact that corporeal palpable form of the thing (for example, a coat) is only a form of expression of quite a different "thing" (linen, as a value) with which it has nothing in common. The value of the linen is *represented*, expressed, "embodied" in the form of a coat, and the form of the coat is the "ideal or represented form" of the value of the linen.

"As a use-value, the linen is something palpably different from the coat; as value, it is the same as the coat, and now has the appearance of a coat. Thus the linen acquires a

value-form different from its physical form. The fact that it is value, is made manifest by its equality with the coat, just as the sheep's nature of a Christian is shown in his resemblance to the Lamb of God." [*Capital*, Vol. I, p.58.]

This is a completely objective relationship, within which the "bodily form of commodity B becomes the value-form of commodity A, or the body of commodity B acts as a mirror to the value of commodity A", [*Capital*, Vol. I, p.59.] the authorised representative of its "value" nature, of the "substance" which is "embodied" both here and there.

This is why the form of value or value-form is *ideal*, that is to say, it is something quite different from the palpable form of the thing in which it is *represented*, expressed, "embodied", "alienated".

What is this "other", this difference, which is expressed or represented here? People's consciousness? Their will? By no means. On the contrary, both will and consciousness are determined by this objective ideal form, and the thing that it expresses, "represents" is a definite social relationship between people which in their eyes assumes the fantastic form of a relationship between things.

In other words, what is "represented" here as *a thing is* the form of people's activity, the form of life activity which they perform together, which has taken shape "behind the back of consciousness" and is materially established in the form of the relationship between things described above.

This and only this creates the ideality of such a "thing", its sensuous-supersensuous character.

Here ideal form actually does stand in opposition to individual consciousness and individual will as the *form of the external thing* (remember Kant's talers) and is necessarily perceived precisely as the form of the external thing, not its palpable form, but as the form of another equally palpable thing that it represents, expresses, embodies, differing, however, from the palpable corporeality of both things and having nothing in common with their sensuously perceptible physical nature. What is embodied and "represented" here is a definite form of labour, a definite form of human objective activity, that is to say, the transformation of nature by social man.

It is here that we find the answer to the riddle of "ideality". Ideality, according to Marx, is nothing else but the form of social human activity represented in the thing. Or conversely, the form of human activity represented *as a thing*, as an object.

"Ideality" is a kind of stamp impressed on the substance of nature by social human life activity, a form of the functioning of the physical thing in the process of this activity. So all the things involved in the social process acquire a new "form of existence" that is not included in their physical nature and differs from it completely – their ideal form.

So, there can be no talk of "ideality" where there are no people socially producing and reproducing their material life, that is to say, individuals working collectively and, therefore, necessarily possessing consciousness and will. But this does not mean that the "ideality of things" is a product of their *conscious will*, that it is "immanent in the consciousness" and exists only in the consciousness. Quite the reverse, the individuals's consciousness and will are functions of the ideality of things, their comprehended, *conscious ideality*.

Ideality, thus, has a purely social nature and origin. It is the form of a thing, but is it outside this thing, and in the activity of man, as a *form of this activity*. Or conversely, it is the form of a person's activity but outside this person, *as a form of the thing*. Here, then, is

the key to the whole mystery that has provided a real basis for all kinds of idealistic constructions and conceptions both of man and of a world beyond man, from Plato to Carnap and Popper. "Ideality" constantly escapes, slips away from the metaphysically single-valued theoretical fixation. As soon as it is fixed as the "form of the thing" it begins to tease the theoretician with its "immateriality", its "functional" character and appears only as a form of "pure activity". On the other hand, as soon as one attempts to fix it "as such", as purified of all the traces of palpable corporeality, it turns out that this attempt is fundamentally doomed to failure, that after such a purification there will be nothing but phantasmal emptiness, an indefinable vacuum.

And indeed, as Hegel understood so well, it is absurd to speak of "activity" that is not realised in anything definite, is not "embodied" in something corporeal, if only in words, speech, language. If such, "activity" exists, it cannot be in reality but only in *possibility*, only potentially, and, therefore, not as activity but as its opposite, as *inactivity*, as the absence of activity.

So, according to Hegel, the "spirit", as something ideal, as something opposed to the world of corporeally established forms, cannot "reflect" at all (i.e., become aware of the forms of its own structure) unless it preliminarily opposes "itself to itself", as an "object", a thing that differs from itself.

When speaking of value-form as the ideal form of a thing, Marx by no means accidentally uses the comparison of the mirror: "In a sort of way, it is with man as with commodities. Since he comes into the world neither with a looking glass in his hand, nor as a Fichtean philosopher, to whom 'I am I' is sufficient, man first sees and recognises himself in other men. Peter only establishes his own identity as a man by first comparing himself with Paul as being of like kind. And thereby Paul, just as he stands in his Pauline personality, becomes to Peter the type of the genus homo." [*Capital*, Vol. I, p. 59.]

Here Marx plainly indicates the parallel between his theory of the "ideality" of the value-form and Hegel's understanding of "ideality", which takes into account the dialectics of the emergence of the collective self-awareness of the human race. Yes, Hegel understood the situation far more broadly and profoundly than the "Fichtean philosopher"; he established the fact that "spirit", before it could examine itself, must shed its unblemished purity and phantasmal nature, and must itself turn *into an object* and in the form of this object oppose itself. At first in the form of the Word, in the form of verbal "embodiment", and then in the form of instruments of labour, statues, machines, guns, churches, factories, constitutions and states, in the form of the grandiose "inorganic body of man", in the form of the sensuously perceptible body of civilisation which for him serves only as a glass in which he can examine himself, his "other being", and know through this examination his own "pure ideality", understanding himself, his "other being", and know through this examination his own "pure activity" is not directly given and cannot be given "as such", immediately in all its purity and undisturbed perfection; it can be known only through analysis of its "embodiments", through its reflection in the glass of palpable reality, in the glass of the system of things (their forms and relationships) created by the activity of "pure spirit". By their fruits ye shall know them-and not otherwise.

The ideal forms of the world are, according to Hegel, forms of activity *realised* in some material. If they are not realised in some palpable material, they remain invisible and unknown for the active spirit itself, the spirit cannot become aware of them. In order to examine them they must be "reified", that is, turned into the forms and relations of *things*. Only in this case does ideality *exist*, does it possess *present* being; only as a reified and reifiable form of

activity, a form of activity that has become and is becoming the form of a object, a palpable thing outside consciousness, and in no case as a transcendental-psychological pattern of consciousness, not as the internal pattern of the "self", distinguishing itself from itself within itself, as it turned out with the "Fichtean philosopher".

As the internal pattern of the activity of consciousness, as a pattern "immanent in the consciousness", ideality can have only an illusory, only a phantasmal existence. It becomes real only in the course of its reification, objectification (and deobjectification), alienation and the sublation of alienation. How much more reasonable and realistic this interpretation was, compared with that of Kant and Fichte, is self-evident. It embraced the actual dialectics of people's developing "self-consciousness", it embraced the actual phases and metamorphoses in whose succession alone the "ideality" of the world exists.

It is for this reason that Marx joins Hegel in respect of terminology, and not Kant or Fichte, who tried to solve the problem of "ideality" (i.e., activity) while remaining "inside consciousness", without venturing into the external sensuously perceptible corporeal world, the world of the palpable forms and relations of things.

This Hegelian definition of the term "ideality" took in the whole range of phenomena within which the "ideal", understood as *the corporeally embodied form of the activity of social man*, really exists.

Without an understanding of this circumstance it would be totally impossible to fathom the miracles performed before man's eyes by the COMMODITY, the commodity form of the product, particularly in its money form, in the form of the notorious "real talers", "real rubles", or "real dollars", things which, as soon as we have the slightest theoretical understanding of them, immediately turn out to be not "real" at all, but "ideal" through and through, things whose category quite unambiguously includes *words*, the units of *language*, and many other "things". Things which being wholly "material", palpable formations, acquire all their "meaning" (function and role) from "spirit" and even owe to it their specific bodily existence ... Outside spirit and without it there cannot even be *words*, there is merely a vibration of the air.

The mysteriousness of this category of "things", the secret of their "ideality", their sensuous-supersensuous character was first revealed by Marx in the course of his analysis of the commodity (value) form of the product.

Marx characterises the commodity form as an IDEAL form, i.e., as a form that has absolutely nothing in common with the real palpable form of the body in which it is represented (i.e., expressed, materialised, reified, alienated, realised), and by means of which it "exists", possesses "present being".

It is "ideal" because it does not include a single atom of the substance of the body in which it is represented, because it is the form of quite *another body*. And this other body is present here not bodily, materially ("bodily" it is at quite a different point in space), but only once again "ideally", and here there is not a single atom of its substance. Chemical analysis of a good coin will not reveal a single molecule of boot-polish, and vice versa. Nevertheless, a gold coin represents (expresses) the value of a hundred tins of boot-polish precisely by its weight and gleam. And of course, this act of representation is performed not in the consciousness of the seller of boot-polish, but outside his consciousness in any "sense" of this word, outside his head, in the space of the market, and without his having even the slightest suspicion of the mysterious nature of the money form and the essence of the price of boot-polish. ... Everyone can spend money without knowing what money is.

For this very reason the person who confidently uses his native language to express the most subtle and complex circumstances of life finds himself in a very difficult position if he takes it into his head to *acquire consciousness* of the relationship between the "sign" and the "meaning". The consciousness which he may derive from linguistic studies in the present state of the science of linguistics is more likely to place him in the position of the centipede who was unwise enough to ask himself which foot he steps off on. And the whole difficulty which has caused so much bother to philosophy as well lies in the fact that "ideal forms", like the value-form, the form of thought or syntactical form, have always arisen, taken shape and developed, turned into something objective, completely independent of anyone's consciousness, in the course of processes that occur not at all in the "head", but most definitely outside it – although not without its participation.

If things were different, the "idealism" of Plato and Hegel would, indeed, be a most strange aberration, quite unworthy of minds of such calibre and such influence. The *objectivity* of the "ideal form" is no fantasy of Plato's but an indisputable and stubborn fact. A fact that such impressive thinkers as Aristotle, Descartes, Spinoza, Kant, Hegel and Einstein, not to mention thousands of lesser spirits, racked their brains over throughout the centuries.

"Idealism" is not a consequence of some elementary mistake committed by a naive schoolboy who saw a terrible ghost that was not there. Idealism is a completely sober statement of the objectivity of ideal form, that is, the fact of its existence in the space of human culture independently of the will and consciousness of individuals – a statement that was, however, left without an adequate scientific explanation.

This statement of the fact without its scientific materialist explanation is what idealism is. In the given case materialism consists precisely in the scientific explanation of this fact and not in ignoring it. Formally this fact looks just as it was described by the thinkers of the "Platonic line" – a form of movement of physically palpable bodies which is objective despite its obvious incorporeality. An incorporeal form controlling the fate of entirely corporeal forms, determining whether they are to be, or not to be, a form, like some fleshless, and yet all-powerful "soul" of things. A form that preserves itself in the most diverse corporeal embodiments and does not coincide with a single one of them. A form of which it cannot be said WHERE EXACTLY it "exists".

A completely rational, non-mystical understanding of the "ideal" (as the "ideal form" of the real, substantially material world) as evolved in general form by Marx in the course of his constructive critical mastering of the Hegelian conception of ideality, and particularised (as the solution to the question of the form of value) through his criticism of political economy, that is to say, of the classical labour theory of value. The ideality of value-form is a typical and characteristic case of ideality in general, and Marx's conception of it serves as a concrete illustration of all the advantages of the dialectical materialist view of ideality, of the "ideal".

Value-form is understood in *Capital* precisely as the reified form (represented as, or "representing", the thing, the relationship of things) of social human life activity. Directly it does present itself to us as the "physically palpable" embodiment of *something "other"*, but this "other" cannot be some physically palpable matter.

The only alternative, it appears, is to assume some kind of *bodiless substance*, some kind of "insubstantial substance". And classical philosophy here proposed a logical enough solution: such a strange "substance" can be only activity – "pure activity", "pure form-creating activity". But in the sphere of economic activity this substance was, naturally, decoded as

labour, as man's physical labour transforming the physical body of nature, while "value" became *realised* labour, the "embodied" act of labour. So it was precisely in political economy that scientific thought made its first decisive step towards discovering the essence of "ideality". Already Smith and Ricardo, men fairly far removed from philosophy, clearly perceived the "substance" of the mysterious value definitions *in labour*.

Value, however, though understood from the standpoint of its "substance", remained a mystery with regard to its "form". The classical theory of value could not explain why this substance expressed itself as it did, and not in some other way. Incidentally, the classical bourgeois tradition was not particularly interested in this question. And Marx clearly demonstrated the reason for its indifference to the subject. At all events, deduction of the form of value from its "substance" remained an insuperable task for bourgeois science. The *ideality* of this form continued to be as mysterious and mystical as ever.

However, since the theoreticians found themselves in direct confrontation with the mysterious – physically impalpable – properties of this form, they had recourse again and again to the well-known ways of interpreting "ideality". Hence, the idea of the existence of "ideal atoms of value", which were highly reminiscent of Leibniz's monads, the immaterial and unextended quanta of "spiritual substance".

Marx, as an economist, was helped by the fact that he knew a lot more about philosophy than Smith and Ricardo.

It was when he saw in the Fichtean-Hegelian conception of *ideality as "pure activity"* as abstractly mystifying description of the real, physically palpable labour of social man, the process of the physical transformation of physical nature performed by man's physical body, that he gained the theoretical key to the riddle of the ideality of value-form.

The value of a thing presented itself as the reified labour of man and, therefore, the *form of value* turned out to be nothing else but the reified *form* of this labour, a form of human life activity.

And the fact that this is by no means *the form of the thing as it is* (i.e., the thing in its natural determinateness) but a *form of social human labour* or of the form-creating activity of social man embodied in the substance of nature – it was this fact that provided the solution to the riddle of *ideality*. The ideal form of a thing is not the form of the thing "in itself", but a form of social human life activity regarded as *the form of a thing*.

And since in its developed stages human life activity always has a purposeful, i.e., consciously willed character, "ideality" presents itself as a *form of consciousness and will*, as the law guiding man's consciousness and will, as the objectively compulsory pattern of consciously willed activity. This is why it turns out to be so easy to portray the "ideal" exclusively as a form of consciousness and self-consciousness, exclusively as the "transcendental" pattern of the psyche and the will that realises this pattern.

And if this is so, the Platonic-Hegelian conception of "ideality" begins to appear as merely an impermissible projection of the forms of consciousness and will (forms of thought) on to the "external world". And the "criticism" of Hegel amounts merely to reproaches for his having "ontologised", "hypostatized" the purely subjective forms of human mental activity. This leads to the quite logical conclusion that all categories of thought ("quantity", "measure", "essence", and so on and so forth) are only "ideal", that is, only transcendental-psychological patterns of the subject's activity and nothing else.

Marx, of course, had quite a different conception. According to him all the logical categories without exception are only the *idealised* (i.e., converted into forms of human life activity,

activity that is primarily external and sensuously objective, and then also "spiritual"), universal forms of existence of objective, reality, of the "physical world". A conception, as can easily be seen, which is just the reverse in the sequence of its "theoretical deduction".

This interpretation of "ideality" is in Marx based, above all, on the materialist understanding of the specific nature of the social human relationship to the world (and the fundamental difference between this and the animals' relationship to the world, the purely biological relationship): "The animal is immediately one with its life activity. It does not distinguish itself from it. It is *its life activity*. Man makes his life activity itself the object of his will and of his consciousness." [Marx, *Estranged Labour*, 1844, in Karl Marx, Frederick Engels, *Collected Works*, Vol. 3, Moscow, 1975, p. 276]

This means that the animal's activity is directed only towards external objects. The activity of man, on the other hand, is directed not only on them, but also on his own forms of life activity. It is activity directed *upon itself*, what German classical philosophy presented as the specific feature of the "spirit", as "reflection", as "self-consciousness".

In the above passage quoted from Marx's early works he does not emphasise sufficiently the fundamentally important detail that distinguishes his position from the Fichtean-Hegelian interpretation of "reflection" (the relationship to oneself as to "another"). In view of this the passage may be understood to mean that man acquires a new, second plane of life activity precisely because he possesses *consciousness and will*, which the animal does not possess.

But this is just the opposite of the case. Consciousness and will appear in man only because he already possesses a special plane of life activity that is absent in the animal world – activity directed towards the mastering of forms of life activity that are specifically social, purely social in origin and essence, and, therefore, not biologically encoded in him.

The animal that has just been born is confronted with the external world. The forms of its life activity are inborn along with the morphology of its body and it does not have to perform any special activity in order to "master" them. It needs only to exercise the forms of behaviour encoded in it. Development consists only in the development of instincts, congenital reactions to things and situations. The environment *merely corrects* this development.

Man is quite a different matter. The child that has just been born is confronted – outside itself – not only by the external world, but also by a very complex system of culture, which requires of him "modes of behaviour" for which there is genetically (morphologically) "no code" in his body. Here it is not a matter of *adjusting ready-made patterns of behaviour*, but of *assimilating* modes of life activity that do not *bear any relationship at all* to the biologically necessary forms of the reactions of his organism to things and situations.

This applies even to the "behavioural acts" directly connected with the satisfaction of biologically inborn needs: the need for food is biologically encoded in man, but the need to eat it with the help of a plate, knife, fork and spoon, sitting on a chair, at a table, etc., etc., is no more congenital in him than the syntactical forms of the language in which he learns to speak. In relation to the morphology of the human body these are as purely and externally *conventional* as the rules of chess.

These are pure forms of the external (existing outside the individual body) world, forms of the organisation of this world, which he has yet to convert into the forms of his individual life activity, into the patterns and modes of his activity, in order to become a man.

And it is this world of the forms of social human life activity that confronts the newborn child (to be more exact, the biological organism of the species *Homo Sapiens*) as the

objectivity to which he is compelled to *adapt* all his "behaviour", all the functions of his organic body, as the object towards assimilation of which his elders guide all his activity.

The existence of this specifically human object – the world of things created by man for man, and, therefore, things whose forms are *reified forms of human activity* (labour), and certainly not the forms naturally inherent in them – is the condition for the existence of *consciousness and will*. And certainly not the reverse, it is not consciousness and will that are the condition and prerequisite for the existence of this unique object, let alone its "cause".

The consciousness and will that arise in the mind of the human individual are the direct consequence of the fact that what he is confronted by as the object of his life activity is not nature as such, but nature that has been transformed by the labour of previous generations, shaped by human labour, nature in the forms of human life activity.

Consciousness and will become necessary form of mental activity only where the individual is compelled to control his own organic body in answer not to the organic (natural) demands of this body but to demands presented from outside, by the "rules" accepted in the society in which he was born. It is only in these conditions that the individual is compelled to distinguish *himself from his own organic* body. These rules are not passed on to him by birth, through his "genes", but are imposed upon him from outside, dictated by culture, and not by nature.

It is only here that there appears the relationship to oneself as to a single representative of "another", a relationship unknown to the animals. The human individual is obliged to subordinate his own actions to certain "rules" and "patterns" which he has to assimilate as a *special object* in order to make them rules and patterns of the life activity of his own body.

At first they confront him *as an external object*, as the forms and relationships of things created and recreated by human labour. It is by mastering the objects of nature in the forms created and recreated by human labour that the individual becomes for the first time a man, becomes a representative of the "human race", whereas before this he was merely a representative of a biological species.

The existence of this purely social legacy of forms of life activity, that is to say, a legacy of forms that are in no way transmitted through the genes, through the morphology of the organic body, but only through education, only through assimilation of the available culture, only through a process in the course of which the individual's organic body changes into a representative of the RACE (i.e., the whole specific aggregate of people connected by the ties of social relationships) – it is only the existence of this specific relationship that brings about consciousness and will as specifically human forms of mental activity.

Consciousness only arises where the individual is compelled to *look at himself as if from the side* – as if with the eyes of another person, the eyes of all other people – only where he is compelled to correlate his individual actions with the actions of another man, that is to say, only within the framework of collectively performed life activity. Strictly speaking, it is only here that there is any need for WILL, in the sense of the ability to forcibly subordinate one's own inclinations and urges to a certain law, a certain demand dictated not by the individual organics of one's own body, but by the organisation of the "collective body", the collective, that has formed around a certain common task.

It is here and only here that there arises the IDEAL plane of life activity unknown to the animal. Consciousness and will are not the "cause" of the manifestation of this new plane of relationships between the individual and the external world, but only the *mental forms of its*

expression, in other words, its *effect*. And, moreover, not an accidental but a necessary form of its manifestation, its expression, its realisation.

We shall go no further in examining consciousness and will (and their relationship to "ideality") because here we begin to enter the special field of psychology. But the problem of "ideality" in its general form is equally significant for psychology, linguistics, and any socio-historical discipline, and naturally goes beyond the bounds of psychology as such and must be regarded independently of purely psychological (or purely politico-economic) details.

Psychology must necessarily proceed from the fact that between the individual consciousness and objective reality there exists the "mediating link" of the historically formed culture, which acts as the prerequisite and condition of individual mental activity. This comprises the economic and legal forms of human relationships, the forms of everyday life and forms of language, and so on. For the individual's mental activity (consciousness and will of the individual) this culture appears immediately as a "system of meanings", which have been "reified" and confront him quite objectively as "non-psychological", extra-psychological reality. [This question is examined in greater detail in A.N. Leontyev's article "Activity and Consciousness".]

Hence interpretation of the problem of "ideality" in its purely psychological aspect does not bring us much nearer to a correct understanding of it because the secret of ideality is then sought not where it actually arises: not in space, where the history of the real relationships between social man and nature is enacted, but in the human head, in the material relationships between nerve endings. And this is just as absurd an undertaking as the idea of discovering the form of value by chemical analysis of the gold or banknotes in which this form presents itself to the eye and sense of touch.

The riddle and solution to the problem of "idealism" is to be found in the peculiar features of mental activity of the subject, who cannot distinguish between *two fundamentally different and even opposed categories of phenomena* of which he is sensuously aware as existing outside his brain: the natural properties of things, on the one hand, and those of their properties which they owe not to nature but to the social human labour embodied in these things, on the other.

This is the point where such opposites as crudely naive materialism and no less crudely naive idealism directly merge. That is to say, where the material is directly identified with the ideal and vice versa, where all that exists outside the head, outside mental activity, is regarded as "material" and everything that is "in the head", "in the consciousness"; is described as "ideal".

Real, scientific materialism lies not in declaring everything that is outside the brain of the individual to be "secondary" and "ideal". Scientific materialism lies in the ability to distinguish the fundamental borderline in the composition of palpable, sensuously perceptible "things" there and not somewhere else.

The "ideal" plane of reality comprises only that which *is created by labour* both in man himself and in the part of nature in which he lives and acts, that which daily and hourly, ever since man has existed, is produced and reproduced by his own social human – and, therefore, purposeful – transforming activity.

So one cannot speak of the existence of an "ideal plane" in the animal (or in an uncivilised, purely biologically developed "man") without departing from the strictly established philosophical meaning of the term.

Man acquires the "ideal" plane of life activity only through mastering the historically devel-

oped forms of social activity, only together with the *social* plane of existence, only together with culture. "Ideality" is nothing but an aspect of culture, one of its dimensions, determining factors, properties. In relation to mental activity it is just as much an *objective* component as mountains and trees, the moon and the firmament, as the processes of metabolism in the individual's organic body. This is why people often confuse the "ideal" with the "material", taking the one for the other. This is why idealism is not the fruit of some misapprehension, but the legitimate and natural fruit of a world where things acquire human properties while people are reduced to the level of a material force, where things are endowed with "spirit", while human beings are utterly deprived of it. The objective reality of "ideal forms" is no mere invention of the idealists, as it seems to the pseudo-materialists who recognise, on one side, the "external world" and on the other, only the "conscious brain" (or "consciousness as a property and function of the brain"). This pseudo-materialism, despite all its good intentions, has both feet firmly planted in the same mystical swamp of fetishism as its opponent – principled idealism. This is also fetishism, only not that of the bronze idol or the "Logos", but a fetishism of a nervous tissue, a fetishism of neurons, axons and DNA's, which in fact possess as little of the "ideal" as any pebble lying on the road. Just as little as the "value" of the diamond that has not yet been discovered, no matter how huge and heavy it might be.

"Ideality" is, indeed, necessarily connected with consciousness and will but not at all in the way that the old, pre-Marxist materialism describes this connection. It is not ideality that is an "aspect", or "form of manifestation" of the conscious-will sphere but, on the contrary, the conscious-will character of the human mentality is a form of manifestation, an "aspect" or mental manifestation of the *ideal* (i.e., sociohistorically generated) *plane of relationships between man and nature*.

Ideality is a characteristic of *things*, not as they are determined by nature but as they are determined by *labour*, the transforming and form-creating activity of social man, his *purposeful*, sensuously objective activity.

The ideal form is the form of a thing created by social human labour. Or conversely, the form of labour realised in the substance of nature, "embodied" in it, "alienated" in it, "realised" in it and, therefore, presenting itself to man the creator as *the form of a thing* or a relationship between things in which man, his labour, has placed them.

In the process of labour man, while remaining a natural being, transforms both external things and (in doing so) his own "natural" body, shapes natural matter (including the matter of his own nervous system and the brain, which is its centre), converting it into a "means" and "organ" of his purposeful life activity. This is why he looks upon "nature" (matter) from the very first as material in which his aims are, embodied", and as the "means" of their realisation. This is why he sees in nature primarily what is suitable for this role, what plays or may play the part of a means towards his ends, in other words, what he has already drawn into the process of his purposeful activity.

Thus at first he directs his gaze at the stars exclusively as a natural clock, calendar and compass, as *instruments* of his life activity. He observes their "natural" properties and regularities only insofar as they are properties and regularities and regularities of the material in *which his activity is being performed*, and with these "natural" features he must, therefore, reckon as a completely objective *component of his activity* which is in no way dependent on his will and consciousness.

But it is for this very reason that he takes the results of his transforming activity (the

forms and relations of things given by himself) as the forms and relations of things as they are. This gives rise to fetishism of very kind and shade, one of the varieties of which was and still is *philosophical idealism*, the doctrine which regards the ideal forms of things (i.e., the forms of human activity embodied in things) as the eternal, primordial and "absolute" forms @ the universe, and takes into account all the rest only insofar as this "all the rest", that is to say, all the actual diversity of the world has already been drawn into the process of labour, already been made the means, instrument and material of realisation of purposeful activity, already been refracted through the grandiose prism of "ideal forms" (forms of human activity), is already presented (*represented*) in these forms, already shaped by them.

For this reason the "ideal" exists *only in man*. Outside man and beyond him there can be nothing "ideal". Man, however, is to be understood not as one individual with a brain, but as a real aggregate of real people collectively realising their specifically human life activity, as the "aggregate of all social relations" arising between people around one common task, around the process of the social production of their life. It is "inside" man *thus understood* that the ideal exists, because "inside" *man thus understood are all the things* that "mediate" the individuals that are socially producing their life : *words, books, statues, churches, community centres, television towers*, and (above all!) *the instruments of labour*, from the stone axe and the bone needle to the modern automated factory and the computer. It is in these "things" that the ideal exists as the "subjective", purposeful form-creating life activity of social man, embodied in the material of nature.

The ideal form is a form of a thing, but a form that is outside the thing, and is to be found in man as a form of his dynamic life activity, as goals and needs. Or conversely, it is a form of man's life activity, but outside man, in the form of the thing he creates. "Ideality" as such exists only in the constant succession and replacement of these two forms of its "external embodiment" and does not coincide with either of them taken separately. It exists only through the unceasing process of the transformation of the *form of activity – into the form of a thing and back – the form of a thing into the form of activity* (of social man, of course).

Try to identify the "ideal" with any one of these two from of its immediate existence – and it no longer exists. All you have left is the "substantial", entirely material body and its bodily functioning. The "form of activity" as such turns out to be bodily encoded in the nervous system, in intricate neurodynamic stereotypes and "cerebral mechanisms" by the pattern of the external action of the material human organism, of the individual's body. And you will discover nothing "ideal" in that body. The form of the thing created by man, taken out of the process of social life activity, out of the process of man-nature metabolism, also turns out to be simply the material form of the thing, the physical shape of an external body and nothing more. A *word*, taken out of the organism of human intercourse, turns out to be nothing more than an acoustic or optical phenomenon. "In itself" it is no more "ideal" than the human brain.

And only in the reciprocating movement of the two opposing "metamorphoses" – forms of activity and forms of things in their dialectically contradictory mutual transformations – DOES THE IDEAL EXIST.

Therefore, it was only DIALECTICAL materialism that was able to solve the problem of the ideality of things.

Source : *Problems of Dialectical Materialism* translated by Rebert Daglish (Progress Publishers, 1977), pp 71-99. P A S

The Impact of Pavlov on the Psychology of Learning in English-Speaking Countries

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The translation of Pavlov's lectures (Pavlov, 1927) Provided English-speaking psychologists with access to the full scope of Pavlov's research and theoretical ideas. The impact this had on their study of the psychology of learning can be assessed by examining influential books in this area. This reveals that Watson (1924) had been highly effective in promoting the misleading idea that Pavlov was a fellow S-R theorist. This assumption was not questioned by Tolman (1932), Hilgard and Marquis (1940) or by Hull (1943). However, this mistake was not made by Skinner (1938), who also provided the strongest arguments against Pavlov's belief that behavioral effects required explanation in terms of physiological processes. Post-1927 most learning research in the English-speaking countries continued to use instrumental, rather than Pavlovian, conditioning procedures. Nevertheless, many of the issues addressed by this research were ones that Pavlov had been the first to raise, so that his major influence can be seen as that of defining a research program for subsequent students of learning.

Keywords : Pavlovian conditioning, operant conditioning, behaviorism.

The Twin Roots of the Experimental Study of Learning

Contemporary research on learning can be traced back to two main sources : experimental studies by comparative psychologists in the USA and the work of Pavlov. There is a fascinating synchronicity between these two developments, ones that were initially entirely independent. In 1898 Pavlov and his students in St. Petersburg began to study "psychic reflexes" just as Thorndike in New York published his PhD work on problem solving that initiated the experimental study of instrumental conditioning. In 1903 Pavlov gave his first lecture on conditioning outside of Russia just as Watson obtained his PhD for a developmental studies in animal psychophysics using conditioning methods were carried out in Pavlov's laboratory and one of the questions addressed by these experiments was whether dogs have color vision. During this same period, Watson collaborated with Yerkes and others to study visual perception in various species, including rats and monkeys, and one of the main issues for them was color vision (Boakes, 1984). From early on, the study of conditioning in Russia became intertwined with the philosophical questions raised by Bechterev's objectivism, while in the USA, comparative psychologists became the main proponents of what Watson, in 1913, named "Behaviorism" (Boakes, 1984).

These coincidences, at first, resulted from common issues in an intellectual setting that stretched from New York to St. Petersburg. There were also differences, most importantly those of underlying ideology. The research questions addressed by American comparative psychologists arose either from debates about what would now be called "comparative cognition" following Darwin's views on mental evolution or from the more pragmatic attempt to

further understanding of phenomena from everyday life inspired by James' (1890) *Principles of Psychology*. Following the latter, questions concerning habits were of particular interest to comparative psychologists early in the 20th century. This is in marked contrast to Pavlov's approach to the study of conditioning from the standpoint of a physiologist concerned with understanding how the brain works.

As the years went by, English-speaking psychologists learned more and more about Pavlov's work. By the 1930s research on learning was expanding at an ever-increasing rate (Coleman, 1988). The main question addressed by the present paper is: In what ways was this expansion influenced by Pavlov's research?

Pavlov and Watson's Behaviorism

Pavlov's research on conditioning became known among English-speaking psychologists at just the right time for Behaviorism. Decades later Watson recalled : "I had worked the thing out in terms of HABIT formation. It was only later, when I began to dig into the vague word HABIT that I saw the enormous contribution Pavlov had made, and how easily the conditioned response could be looked upon as the unit of what we had been calling HABIT. I certainly, from that point on, gave the master his due credit" (Hilgard & Marquis, 1940, p. 40). Watson gave such credit to Pavlov in his APA Presidential Address of 1916 and in 1924 Watson placed the conditioned reflex as the foundation stone for the future development of behaviorist psychology in his highly influential and very widely read book, *Behaviorism* (Watson, 1924). From that time on almost every introductory textbook published in English contained a chapter on learning that gave prominence to Pavlov's conditioned reflex.

Pavlov seemed at first to have been pleased by this marriage between his conditioned reflex and Watson's behaviorism. In 1927 he commented in a negative way on American psychological research in general, writing that "with the exception of a small group of behaviorists their work cannot be regarded as purely physiological" (Pavlov, 1927; p. 7). In a sentence that Watson could have written, Pavlov stated that "habits are nothing but a long chain of conditioned reflexes" (Pavlov, 1927; p. 395). However, a few years later Pavlov was as critical of behaviorists as of any other kind of psychologist (Pavlov, 1932).

Old habits die hard. Starting with Thorndike (1898), comparative psychologists like Watson had for many years been studying learning processes and other aspects of animal behavior using instrumental conditioning procedures, whereby whether and when a cat in a puzzle box or a rat in a maze obtained food reward depended on how it behaved. Recognition of Pavlov's contribution did not lead at first to any marked change in the behavior of these comparative psychologists.

Again following Thorndike (1898), Watson and his fellow behaviorists had become deeply committed to the view that the basic unit of behavior is the stimulus-response - S-R - connection. Watson (1925) cast Pavlov as a fellow S-R theorist and, as we shall see, this assumption was hardly questioned by the learning theorists that followed later. It can well seem that American behaviorism adopted the language of the conditioned reflex, while rejecting the method and ignoring the theoretical and empirical content of Pavlov's research (Ruiz, Sanchez, & De la Casa, 2003).

In the 1960s Behaviorism began to lose its dominance in American psychology. It was only then that research on classical conditioning exploring Pavlovian themes - notably those

of inhibitory learning, overshadowing and configured representation – and using Pavlovian (i.e. non-instrumental) procedures became the main focus for learning theorists in the USA and other English-speaking countries, notably Canada and the UK.

This may suggest that there was a 50-year break in terms of the influence of Pavlov's work on English-speaking psychology, apart from the continued use of his terminology and the continued inclusion of a few pages on Pavlovian conditioning in every introductory textbook. However, closer examination reveals considerable continuity in the development of learning theory and the influence of Pavlov, and also much more variety in the reaction to Pavlov among the learning theorists who are often placed together in the category "behaviorists."

Conditioned Reflexes of 1927

Early accounts in English of Pavlov's work rarely went beyond the basic phenomena that Pavlov and his students studied in the early part of his long and massive research program on conditioning. As in contemporary psychology textbooks, these usually covered only the acquisition and extinction of a conditioned salivary response, stimulus generalization and discrimination training – Pavlov's 'differential conditioning' – plus spontaneous recovery, disinhibition and higher-order conditioning.

This was quite understandable in 1924 when Watson published *Behaviorism*. Outside of Russia what was known about Pavlov's research findings came from a few short articles in English, French or German, and mainly conference papers by Pavlov or brief reviews. This situation was changed in 1927 when Anrep published his translation of the set of lectures that Pavlov had given in 1924 into English. The book was titled *Conditioned Reflexes: An Investigation of the Physiological Activity of the Cerebral Cortex* (Pavlov, 1927). It provided a comprehensive and detailed account of research that had taken place over the previous twenty-five years in Pavlov's laboratory. It would be difficult to find any body of research within psychology in this era that could even attempt to rival Pavlov in terms of either scope, consistency of development or richness of original discoveries and of detailed theory. Following the first two lectures with mainly introductory content, the book contains twenty-one lectures, each containing experimental results interwoven with a discussion of their significance. Of these, the eleven that concentrate on basic processes of conditioning (Lectures 3-13) and the three that report experiments involving cortical lesions (Lectures 19-21) are of special interest in the present paper. Other topics, such as experimental neurosis and Pavlov's account of differences in temperament, are discussed by other contributors.

Given how little was known in detail about Pavlov's research prior to the English publication of Pavlov (1927) – and in the following year the translation into English of a further set of lectures (Pavlov, 1928) – perhaps it is not surprising that Pavlov's impact was limited for at least a decade after Watson (1916) had proclaimed how important Pavlov was to psychology (Hilgard & Marquis, 1940; pp. 13-14). However, from around 1930 the psychology of learning obtained an increasingly dominant position in North American psychology as a result of the influence of Watson's successors and their various of neo-Behaviorism. Almost all of those who became productive researchers in the field of learning must have read some of Pavlov (1927) as students, if only casually. Consequently one might have expected Pavlov's theoretical ideas, methods and findings to have had some continuing influence.

One way of assessing Pavlov's influence is to examine some of the more influential books

in English on learning published after 1927. For this paper I selected four that were arguably the most important for the generation that began research on learning in the 1940s and 1950s.

Tolman (1932)

The first important book on learning theory to follow Pavlov (1927) was Tolman's (1932) *Purposive Behavior in Animals and Man*. Possibly because it was based largely on articles written over the preceding decade, it displays little interest in Pavlov's research. Instead it consists of a sustained critique of Watson's theories and an attempt to develop an alternative account of learning in which the conditioned reflex hardly plays a role. Nevertheless, Tolman's book is of interest here for two reasons. First, it starts with the argument for a *molar* approach to behavior, one in which the terms *stimulus* and *response* can refer to more complex events than those that physiologists deal with. Tolman stated that an act *qua* behavior has distinctive properties all its own that are strictly correlated with and dependent upon physiological motions, but descriptively are other than those motions.

This move away from the *molecular* view of behavior inherent in Pavlov, and adopted by Watson, was increasingly adopted by later behaviorists, even by those that strongly objected to other aspects of Tolman's theories.

A second reason that Tolman (1932) is interesting in this context is that it reveals how dominant Watson's version of the conditioned reflex had already become. In a chapter subtitled "The Conditioned Reflex Doctrine" (Tolman, 1932; pp. 319-338) Tolman inadvertently reveals how little attention he had paid to what Pavlov himself wrote. Instead, Tolman refers to the account of Pavlov's theories and research provided by a psychology textbook (Woodworth, 1929). Incidentally, this is an unimpressive source in that it provides a brief and superficial account of conditioning at a level appropriate for a first year student. Tolman criticizes the view that classical conditioning is based on the formation of a direct connection between the conditioned stimulus (CS) and the conditioned response (CR). Instead, Tolman suggests what he considers to be a new perspective, that the CS serves to signal the arrival of the unconditioned stimulus (US). This was exactly the point that Pavlov had made in the second lecture in his *Conditioned Reflexes* (Pavlov, 1927; p. 22).

Skinner (1938)

Skinner was one of the later behaviorists who accepted Tolman's argument about the molar nature of behavior, but rejected almost every other claim by Tolman. From Skinner's *The Behavior of Organism: An Experimental Analysis* (1938) it is clear that he had read what Pavlov had to say with great care. In fact, the only other researcher that Skinner cites at any length is Pavlov. Skinner did not make the mistake of seeing Pavlov as an S-R theorist. By then, Skinner and a few other American theorists had followed Konorski and Miller (1937) in distinguishing between two kinds of conditioning: Pavlovian, classical or what Skinner in 1938 referred to as 'Type R' conditioning.

In several respects, Skinner's (1938) book can be seen as an attempt to document the properties of Type R (instrumental) conditioning in the way that Pavlov (1927) had studied the properties of Type S (classical) conditioning. Skinner placed the same emphasis on the experimental conditions and hence the value of data obtained from individual subjects. Skinner's behaviorist predecessors worried that Pavlov's (1927) strong claims were based on

reported data from a few trials with a single dog, while little detail was provided about the experiment as a whole or about how representative these small data sets were. This did not concern Skinner particularly. For example, he accepted Pavlov's account of positive and negative induction and then looked to see whether similar phenomena could be found in Type R (operant) conditioning, although preferring to rename them as positive and negative *contrast* (ibid; pp. 173-175).

In 1938 Skinner made clear his appreciation of the quality, extent and importance of Pavlov's work, except for two related respects. Early in the book he rejected Pavlov's analysis of extinction in terms of inhibition, arguing that no such concept was needed in the analysis of either type of conditioning (ibid; pp. 96-102). Later came a celebrated and highly influential chapter on behavior and the nervous system. This starts by noting "the all but universal belief that a science of behavior must be neurological in nature" and that the common practice of extrapolating from behavioral data to neurophysiological events had really nothing to do with the real nervous system studied by physiologists. Instead this practice led to the invention of a 'conceptual nervous system' that provided an illusion of explanatory power (ibid; pp. 418-422). He went on to express the strongest criticism of Pavlov in this book: "The use of terms with neural references when the observations on which they are based are behavioral is misleading. ... An outstanding example is the systematic arrangement of data given by Pavlov" (ibid, pp. 426-427).

Hilgard and Marquis (1940)

Far less famous now than Tolman and Skinner, Hilgard had published a series of experimental articles reporting eyelid conditioning in human subjects and some important theoretical papers on conditioning throughout the 1930s (see Garcia-Hoz, 2003). At the end of this decade he collaborated with one of his research collaborators to publish a book that provided a comprehensive and detailed account of research on conditioning and learning (Hilgard & Marquis, 1940). This became a handbook for learning researches and was not replaced until Kimble published his revised edition of their book (Kimble, 1961). The latter was followed in turn by the entirely new handbook on learning by Mackintosh (1974), for which there is still no clear successor.

In relation to Pavlov's influence on the psychology of learning, the two most interesting aspects of Hilgard and Marquis's (1940) *Conditioning and Learning* are, first, it reveals just how extensive research on classical conditioning had been during the 1930s and, second, the degree to which Pavlov (1927) had set the agenda for this research activity. The very first sentence of the book reads: "The classical conditioning experiment is known to every student of physiology and psychology". The first chapter provides an excellent historical introduction that, among other things, compares the limited initial impact of Pavlov's work with its immense influence following the 1927 publication of *Conditioned Reflexes*. The chapters that follow provide an account of research directly inspired by Pavlov. They are organized in a very similar way to the lectures in Pavlov (1927) and the sequence of topics is not very different from what could be found in a contemporary textbook on learning. The contents of Chapter 12, however, are topics that have disappeared from most current books on learning and conditioning; this chapter covers 'personality', including Pavlov's work on experimental neuroses and on individual differences.

The final chapter in Hilgard and Marquis (1940) examines neurophysiological mechanisms of conditioning. It begins by examining the reasons why "Pavlov's conception of cortical physiology has not met with any wide degree of acceptance" (ibid, p. 311). and identifies four main objections. The first is similar to the point made by Skinner (1938): "Terms like 'irradiation', 'concentration', 'induction' and 'drainage' remain 'purely inferential concepts derived from measures of overt movements or of amount of saliva secreted' and remain mere figures of speech unless 'specific verification can be obtained through more direct observation of the cortex'" (ibid, p. 312). The other three objections have to do with recent experimental evidence that contradicted Pavlov's physiological claims; for example, demonstrations that conditioning can take place at a sub-cortical level. On the other hand, unlike Skinner, Hilgard and Marquis did not try to make a clear separation between physiology and a science of behavior. This is particularly clear in their discussion of what today would be described as the key question of what is learned in the course of a conditioning experiment (Rescorla, 1988). Their discussion is still couched in terms of hypothetical neural pathways. It also still tends to promote the idea that Pavlov was an S-R theorist (ibid, pp. 313-326).

As an alternative to looking at what Hilgard and Marquis (1940) and Pavlov (1927) have in common, one can consider what both leave out. When the uninitiated first come across even contemporary textbooks on learning, they are often surprised by the narrowness of the topics that are covered, and by the heavy emphasis on conditioning and on animal research. Why so little attention to studies of human learning, especially ones that involve procedures other than conditioning? Why nothing in most textbooks on an issue that most outsiders would see as of critical real-world importance: how children learn in school? Why is concern with learning early in development rare, so that topics, such as imprinting, have remained largely the preserve of zoology-trained researchers or 'developmental psycho-biologists', while language acquisition in children is part of psycholinguistics and not to be mentioned in texts on the psychology of learning? The answer must be at least partly that such omissions reflect the way that influential handbooks such as Hilgard and Marquis (1940) and Kimble (1961) defined the boundaries of the psychology of learning, and in turn their definitions were heavily influenced by Pavlov (1927).

Hull (1943)

The unexamined assumption that Pavlov was an S-R theorist is also found in the final book considered here. Hull's (1943) *Principles of Behavior* is in many respects as non-Pavlovian as Tolman (1932), if not distinctly anti-Pavlovian. Hull acknowledges Tolman's arguments for a molar analysis of behavior and, like Tolman, rejects physiological levels of explanation. Hull too relies on secondary sources – the textbooks by Murphy (1935) and Dashiell (1937) in his case – for his understanding of Pavlov's theory. Since Hull believed that all learning was based on the instrumental reinforcement of S-R connections, he saw it as Pavlov's major error not to have reached the same conclusion (ibid, pp. 76-79). He attributed this partly "to the exceedingly limited type of experiment that (Pavlov) employed". Rather than appreciating that Pavlov's choice of conditioned salivation was because it provided a very effective tool for uncovering general principles of conditioning, Hull dismissed this paradigm on the grounds that it was 'artificial'. By this he meant both that as a response system salivation was inferior to "motor effectors ... because of their greater variety and general interest" (ibid, p. 50) and that

conditioned salivation provides a poor method for studying the effects of instrumental reinforcement (ibid, p. 86).

Despite the dismissive and often patronizing attitude towards Pavlov that is expressed in the first few chapters, much of the rest of Hull's book can be seen as a tribute to Pavlov's experimental work. In Hull's development of the concept of secondary reinforcement, his analysis of temporal relationships between CS and reinforcement, of extinction, of conditioned inhibition and of stimulus compounds, he acknowledges the importance of Pavlov's data. Out of a total of fourteen chapters that address specific topics in learning, at least five are heavily dependent on Pavlovian data.

Learning, Performance and Physiology

Two of the chapters in Hull (1943) concentrate on motivation. Tolman (1932) and Skinner (1938) were also concerned with the question of how variations in an individual's internal state affect the performance of learned behavior. This was not an area where Pavlov (1927) provided much help. Interestingly, when in the 1960s learning theorists in English-speaking countries started to concentrate on classical conditioning, once again, most concentrated on principles of learning. They rejected their behaviorist predecessors' concern with changes in behavior and placed questions to do with motivation in another basket, one perhaps to come back to another day.

On the other hand, learning theorists trained in the 1960s and 1970s have been quite unPavlovian in maintaining the rejection of 'physiologizing' by behaviorists of the previous generation. Experiments that examined the effects of cortical lesions were discussed in three of the chapters in Pavlov (1927). In these he is almost apologetic about the crudeness and limitations of this approach to the problem of "determining the importance of different parts of the brain for the normal functioning of the cortex as a whole ... Imagine that we have to penetrate into the activity of an incomparably simpler machine fashioned by human hands, and that for this purpose, not knowing its different parts, instead of carefully dismantling the machine we take a saw and cut away one or another fraction of it, hoping to obtain an exact knowledge of its mechanical working!" (Pavlov, 1927, p. 320). In the English-speaking world researchers using behavioral methods to study conditioning largely kept their distance from their neuroscience colleagues in a way that has often generated mutual disdain. However, the last decade or so has seen an increase in research projects that combine a sophisticated understanding of conditioning principles with elegant physiological and neurochemical procedures of the kind that Pavlov would have delighted in.

Resources

A photograph included in Pavlov (1927) provides a graphic reminder of a major difference between his research and that of psychologists in English-speaking countries. This shows the large building that was specially built to house his laboratory. Pavlov had at his disposal laboratory space, technical support and time for research, plus an army of able research assistants, that together provided resources that were far superior to those available to any psychologist who has studied learning. While in Soviet Russia Pavlov was the single dominant figure in the study of conditioning, elsewhere such research was undertaken by a large number of individuals, most of whom had very limited resources. In this context it is hardly surprising that Pavlov's influence was diverse; researchers varied greatly in the degree and way in which

Pavlov affected their work. It also goes towards explaining why there have been no equivalent individual researchers in any other country who can be compared to Pavlov in terms of the volume, scope and continuing influence of their research.

Summary

From 1903 onwards, Pavlov's research on conditioning became increasingly well known in the English-speaking world, and from 1916 onwards the conditioned reflex was incorporated as an important element of behaviorism. In this process Pavlov was taken to be an S-R theorist who could contribute a respectable theoretical and physiological basis for the behaviorist concern with the learning of habits. When the details of his research became known in 1927, it provided a research program for the psychology of learning as developed by learning theorists of the 1930s and 1940s, stimulating, at first, considerable research using classical conditioning methods. However, particularly because of the influence of Skinner and Hull, this was followed by a period when such methods fell out of favor. In parallel fashion Pavlov's use of physiological concepts to explain conditioning phenomena was increasingly rejected. Nevertheless, the issues originally addressed by Pavlov continued to remain the backbone of research programs in the psychology of learning. Consequently, what is most striking in looking back over a century of conditioning research is the degree of continuity there has been.

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Remembering D.D. Kosambi

Subhendu Sarkar

Damodar Dharmanand Kosambi (31.07.1907 - 29.06.1966), though a renowned Professor of Mathematics, is remembered today chiefly for his scholarly contribution to the study of ancient Indian history. His books and articles had such a great impact that he has even been acknowledged as the pioneer in the field of scientific study of Indian history. The purpose of this article is to give an overview of the method and range of Kosambi's historical research so that his birth centenary year may be a fitting occasion in encouraging those who are hardly aware of his work to understand his approach.

Born at Kosben in the then Portuguese-occupied Goa, Damodar Kosambi was brought up in a family recognized for its standards of learning and social behaviour. His father, Dharmanand Kosambi, was a well-known Buddhist scholar. After some schooling in India, Damodar accompanied his father to the U.S.A when the latter accepted a teaching assignment at Harvard. A student at the Cambridge Latin School and then a graduate in Mathematics of the Harvard University, Damodar Kosambi returned to India in 1931 and worked at Benaras Hindu University and Aligarh Muslim University before settling down in Poona (now Pune) in 1933 as a Professor of Mathematics at the Fergusson College where he served for more than a decade. It was during this time that he cultivated his various scholarly interests. He was offered the Chair for Mathematics at the Tata Institute of Fundamental Research in Bombay (now Mumbai) in 1946 which he held for sixteen long years. Living in his house in Poona, Kosambi boarded the 'Deccan Queen' every morning to attend to his duties in Bombay. The train compartment soon became his study room.

Kosambi having engaged himself almost exclusively in mathematical research (assessing which remains beyond my scope) up to 1939 gradually shifted his focus to social sciences where too he applied mathematical reasoning and statistical methods. It was due to this approach that Indian numismatics (the study of coins or medals) became an exact science in the hands of Kosambi. But it is particularly his research on Indian history that has altered both the approach to early India and the methods of its study. By studying ancient Indian history in the light of dialectical materialism (also called Marxism), Kosambi has provided something that has never been attempted before.

History, for Kosambi, "is the presentation in chronological order of successive changes in the means and relations of production." Instead of documenting a series of historical episodes and recounting the names and exploits of different kings, Kosambi concentrates on the essential ways of life of the whole people. He believes:

The basis of any formal culture must lie in the availability of a food supply beyond that needed to support the actual food-producer. To build the imposing ziggurat temples of Mesopotamia, the Great Wall of China, the pyramids of Egypt, or modern skyscrapers, there must have been a correspondingly imposing surplus of food at the time. Surplus production depends upon the technique and instruments used - 'the means of production', to adopt a convenient though badly abused term. The method by which surplus - not only surplus food but all other produce - passes into the hands of the ultimate user is determined by - and in turn determines - the

form of society, the 'relations of production'.

It is this scientific outlook together with the interpretation of myths and literary sources, the study of historical records existing outside India, application of archaeological and ethnographic methods that enabled Kosambi to reconstruct the culture and civilization of ancient India in both the prehistorical and historical periods.

Discarding the notion of the Golden Age (satya yuga or krita yuga in case of India) from which there has been a steady degeneration, Kosambi traces the different stages of prehistory, through archaeology, in terms of human activity available in the form of stone, pottery, metal objects, etc. Far from being a primitive communist society (which, according to Kosambi, "is again the legend of the 'Golden Age' in pinkish modern garb"), the early food-gathering society was severely restricted with the scanty and uncertain food supply. With limited or no surplus the members of the pre-class society had to depend, besides food gathering, on hunting and fishing. The large deposits of microliths (smaller stone tools), dated at 4000 BCE or earlier from the sand dunes of the south-east coast of India suggest that these tools were ideally suited for skinning animals, tanning their hides by scrapping off the flesh and breaking the fibres under the skin. Apart from these microlithic people, there were those who left megaliths (large stone piles). The megaliths (compared with the microliths seem to be of much later date) are indicative of the fact that the megalithic people had enough time and regular food surplus to have engaged themselves in rock engravings. That there has been advancement in the lives of primitive men is illustrated by the discovery of thicker and rougher microliths in the megalithic piles of boulders. The implication is that the rock engravers had to deal with thicker hides; therefore they must have progressed beyond the stage of hunting to become pastoral people. Both the microlithic and megalithic had to move from one place to another in search of game and better grazing and water, respectively. It was the megalithic people having cattle, salt, access to the coast, stone tools, control of fire, with a maximum variety of natural products who slowly pave the way for the food-producers who ushered in the Iron Age. Iron made intensive agriculture possible for the first time but it also brought patriarchy, individual property and division of class. With regular agriculture cattle manure fertilized land quickly which was exhausted by older tribal slash and burn cultivation. Permanent occupation of the field, therefore, became the norm that tended towards private property in land.

Kosambi not only traced the progress of human civilization step by step but also endeavoured to find primitive survivals in the modern age in the form of social organization, customs and beliefs. These survivals include, among other things, the saddle-quern, the festival of holi and the simple bits of stone coated with red pigment (reminiscent of blood sacrifices) as village gods.

But before the Iron Age, Kosambi had to deal with the Indus valley civilization (its duration may roughly be taken as 3000 - 2000 BCE) belonging to the Bronze Age. Here too his treatment remains exceptional. Instead of merely reconstructing the urban civilization from the ruins, Kosambi focused on the production which supported it. By scrutinizing Babylonian and other earlier records, he notes that the great trade depot for exchange between the Indus region and Iraq was the island of Bahrein in the Persian Gulf. As the best tools used at Harappa and Mohenjo-daro were of bronze, an alloy of copper (which was available in plenty) and tin with traces of other metals, copper comprised the bulk of their export. Besides, copper, the other items exported were peacocks, ivory, apes, pearls and cotton textiles.

The most significant observation made by Kosambi regarding the Indus culture is its failure to adopt the method of canal irrigation to cultivate grain. Food produced by flood-irrigation by

special dams, though sufficient, was not enough for spreading the urban civilization to other parts of the country. Absence of central political power, proper system of taxation and sturdy weapons were other reasons for causing stagnation in the Indus society. The merchants who must have seen canal irrigation in Babylon and Sumeria might have thought these improvements unprofitable. The sloth of the Indus culture was further enhanced by the fact that the land, in all probability, was the property of and directly administered by the great temple and its priests who expropriated the surplus by exploiting the produce. Kosambi remarks: "Once established, they would insist in the way of most ancient priesthoods upon prevailing all innovation." The complete ruin of the Indus cities could have been possible for one single reason - the wiping out of their system of agriculture. Both the absence of canals (the changing course of the river would mean the maintenance of the food supply difficult) and the pastoral Aryan conquerors who destroyed the dams (as the swampy land was unsuitable for cattle herds and blocking of rivers made grazing over long reaches impossible) signaled the end of cereal production.

The gradual development of the Aryan culture from the Bronze Age to the Iron Age included their eastward progress, the sweeping of jungles, acculturation with various food-gathering non-Aryan tribes, the use of iron plough and the caste-based society where the vaisyas and the sudras constituted the food producing and working forces while the surplus was expropriated by the two upper castes, the brahmins and the ksatriyas. The sudras were not bought or sold as slaves in ancient Greece and Rome because commodity production and private property had not developed far enough in India. However, the vaisyas could be oppressed at will and the sudras removed or slain at will. "Caste", Kosambi observes, is "class on a primitive level of production".

Not only the Vedas, epics and other Sanskrit literary sources, Kosambi also uses myths and legends to reconstruct the stages of Indian history. For example, while discussing the cult of Krishna, he writes:

The pastoral life was yielding to the agrarian. Vedic sacrifice and constant fighting may have suited the former, but would have become a costly, intolerable nuisance for the latter. Krishna was a protector of cattle, never invoked at a fire-sacrifice where animals were offered up, as Indra, Varuna and other deities were regularly invoked . . . [T]he pastoral tribes who were changing over to agriculture would certainly prefer Krishna to Indra; so would the pre-Aryans who had begun to learn from the intermarry with the herdsmen, but still worshipped some one of the innumerable local goddesses conveniently made into wives for Krishna. The pure agriculturalists - developing rather slowly in the Punjab - were placated by Krishna's Titanic brother Balarama, also called Samkarshana, 'the ploughman', with the plough as his special attribute weapon where the sharp missile wheel discus (cakra) was Krishna's. Not only was his brother the logical god of ploughmen, but the aboriginal Nagas, too, were adopted through him; Balarama was often taken to be the incarnation of the great primeval Cobra who is supposed to raise this earth upon his head above the waters of the vasty deep.

Behind the rise of Buddhism and Jainism too Kosambi discovers social reasons. The Vedic rituals were performed for success in war - fighting was glorified by the ksatriyas, while the brahmin's duty and means of livelihood was the performance of rituals. The other two castes had the task of producing the surplus, which the two upper castes took away by natural right. Moreover, the Vedic rituals were products of a pastoral society where large herds collectively owned were the main form of property. The new society had gone over to agriculture and was naturally against slaughtering cattle. Thus, new religions based on ahimsa (non-killing) and the

new concept of private property were needed.

Reacting against the Vedic rituals and strict caste-division on the one hand and preposterous ascetic punishment of the body advocated by the eastern religions (for example, Jainism) on the other, Buddhism preferred the 'Middle Path'. Buddhist scriptures worked out separate duties not only for the monks and peasants irrespective of caste, wealth and profession but also for the absolute monarch. It is to be noted, however, that though Buddhism was meant for the whole of contemporary society, not reserved for a few learned initiates and adepts, it neither fought to abolish the caste-system nor dreamt of a casteless (classless) society. In fact, it was a religion that acknowledged and supported the division of labour linked indissolubly to a new form of production in a society emerging from tribal exclusiveness so that there can be progressive development. It was a philosophy that suited absolute monarchies.

Of course, Buddhism proved inadequate and, therefore, declined (the later Buddhist monks came under the corrupting influence of wealth and spent life in luxury) with the rise of feudalism. Penetration into so-far uncleared land (ruled by tribal chiefs) led to the introduction of plough agriculture that replaced tribal slash-and-burn cultivation or food gathering. The brahmins (no longer practising elaborate Vedic sacrifices) of the Gupta period who settled in the tribal regions acted as feudatories. The settlement of the brahmins led to mutual acculturation (the tribal deities were equated with the standard brahmin gods) and introduction of class structure under the guise of caste where none existed before. This resulted in the isolated self-sufficient and changeless village community. With little emphasis on commodity production the empire gradually declined, as there was no extensive trade and sufficient cash taxes. The absence of strong centralized army helped the foreign invaders to a large extent.

It is interesting to note that Kosambi, in spite of adopting the concept of dialectical materialism in his study of Indian history, did not falter to point out some misleading comments made by Marx about the Asiatic mode of production. Kosambi reminds us that the self-sufficient Indian villages did not exist, as Marx suggested, "from time immemorial". In fact, the advance of plough-using agrarian village economy over tribal India was a great historical achievement. Reacting to Marx's statement, "Indian society has no history at all, at least no known history. What we call its history, is but the history of successive intruders who founded their empires on the passive basis of that unresisting and unchanging (village) society", Kosambi comments: ". . . the greatest periods of Indian history, the Mauryan, Satavahana, Gupta owed nothing to intruders; they mark precisely the formation and spread of basic village society, or the development of new trade centres."

Kosambi's contribution is not confined to academia alone. There are quite a few articles written by him that reveal yet another aspect of this multifaceted man. As a Marxist it was his responsibility to deal with the contemporary problems in the way of realizing socialism. Therefore, he assessed the role of the bourgeoisie in India, imperialist machinations in the post-independence era and the function of leadership in a mass movement. His pursuit of science too went beyond the scholarly journals. In the most simplified manner possible, keeping in mind the readers who do not have expertise in the knowledge of science, Kosambi wrote about science and freedom, problems of science and technology in underdeveloped countries, the scientific attitude and religion, revolution and progress of science and solar energy for underdeveloped areas.

Marxism, for Kosambi, has always been a guiding philosophy. It is a means by which he not only tried to understand the past but also drew a picture of the future when there would be limitless possibilities for all in a society free from exploitation of man by man. For those

who study social sciences in the spirit of scientific inquiry and fight for a just society, Koasmbi's works still remain a glorious example.

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Pavlov in America : A Heterodox Approach to the Study of his Influence

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This work presents a critical analysis of Pavlov's influence that goes beyond the conventional view: that which reduces his influence in American psychology to the behaviorism of Watson and Hull. In order to understand the nature of the Russian physiologist's influence in American psychology, we propose a distinction between three approaches to it: 1) the symbolic approach, on representing a model of the possibility of constructing an objective psychology; 2) the methodological approach, given the importance of the technique of conditional reflexes; and 3) the theoretical approach, which is derived from his theory of higher nervous activity. This perspective permits us to suggest that most of Pavlov's influence on behaviorism was of a symbolic and methodological nature-though the methodological influence also reached other authors that did not belong to the behaviorist traditions, as was the case of Matteer. As far as the theoretical influence is concerned, our work proposes that it is more visible in authors such as Gantt and Liddell, or even in authors such as Boldirev, Director of the Pavlovian Laboratory at the Battle Creek Sanitarium in Michigan. The case of Gantt is especially interesting because, in addition to his important contributions, he played an essential role in the foundation of the *Pavloian Society*, and the journal *Conditional reflex*. What our work proposes is that to understand the nature of Pavlov's influence in American psychology it is necessary to take into account the very characteristics of that psychology; its pragmatic interests, its methodological rigor, the dominant systems of neo-behavioral theory and the changes that occurred after the Second World war.

Let us begin by clarifying the meaning of the title we have chosen. For a work of a historical nature such as this, there are different ways of approaching the historiographic study of the problem in question. The least interesting of these would be that which concerns Pavlov's visits to America. As far as we have been able to confirm, Pavlov visited the United

States on tow occasions. The first of these was in 1923, when, accompanied by his son Vladimir, he toured several cities and institutions (Babkin, 1949, pp.106-7). The second was in 1929, to attend the IX International Congress of Psychology at Yale, and the XXX International Congress of Physiology, at Harvard. It is interesting to note here Pavlov's reply to Langsfeld's invitation to participate in the first of these:

Many thanks for the invitation to the International Psychological Congress. I am finally able to decide the question about my trip to America, but I am not a psychologist. I am not quite sure whether my contribution would be acceptable to psychologists and would be found interesting to them. It is pure physiology-physiology of the functions of the higher nervous system -- not psychology. Will you kindly clarify the situation for me? (pare,1990, P.648)

Another, much more serious -- and more complex -- way of dealing with this question is to assess the influence exercised by the Russian physiologist on the American scientific world, and particularly in the field of psychology. This problem is far from being solved.

To repeat here that Pavlov is one of the great figures in the history of science that has had the most influence on psysiology may appear incontestable: Are we not precisely honoring his enormous influence in this voume? Would anyone dare to doubt his contributions amid the celebrations of the centenary of his Madrid Lecture? No one could be blamed for considering the matter closed: Pavlov has had a great influence. All the indications are there (e.g., Coleman,1988; Hagbloom, Warnick, Warnick, Jones, Yarbrough, Russell et al., 2002).

Even so, what we shall argue in this work is that the meaning of Pavlov's influence on American psysiology has not been systematically studied. Or, to put it in a more balanced way, we might say that the problem has been reduced to its simplest form: In some cases it has been denied that Pavlov had any influence at all, and in others, his influence has been taken for granted, but without attempting to assess its nature or scope.

At the root of this matter is the question of the influence itself, understood now as an historiographical problem. What meaning or meanings have been attributed to the term influence in historical studies on psychology? Does the influence of an idea or theory depend exclusively on its scientific value? Or, on the other hand, should the influence of one author on others be conceived as part of another, more general question, which is that of the transference and reception (temporal and/or spatial) of scientific ideas? In the first case, the influence would depend exclusively on the intrinsic value of the idea or theory in question. In the second, the influence would seem to depend not only on this value, but also on the characteristics of the receiving discipline -- for example, its options in terms of methodology or its more substantive aspects -- , as well as on the specific conditions of the historical point at which the receiving discipline takes that influence on board.

In our view, the question of Pavlov's influence should be divided into, at least, three different components, though all interrelated:

1. The first of these would be the symbolic and/or ideological component, that is, his impact on scientists -- psychologists -- as a supposed example in relation to the possibility of studying behavior and/or psychology in an objective way. It is likely that the majority of Pavlov's influence on American psychology is of this nature, though for the moment this is only a hypothesis.

2. The second component would be the methodological character, and would refer to the influence of the technique of conditional reflexes. This is probably the component that will be most talked about in this centenary. It was undoubtedly an important influence on behaviorism, though authors from outside this tradition may also have received its influence.

3. Finally, there would be the theoretical component, the influence of conditional reflexes with their associated specific vocabulary and with their set of theoretical conclusions, that is, the theory of higher nervous activity. The influence of this component has quite possibly been scarce outside of Russia.

Before beginning to give examples of the components mentioned above, it is appropriate to point out that the symbolic and methodological components are closely linked to one another, and that they are presented separately in this work only for the purpose of presenting our argument more clearly.

We have just stated that the major part of Pavlov's influence on American psychology would have been of the symbolic type, that is, as a model of objective approach, and there is evidence of this. Thus, for example, in the first work that referred to the research of Pavlov (Yerkes & Morgulis, 1909), and in the work of Watson, himself discussing the place of the conditional reflex in psychology (Watson, 1916), emphasis was placed on the fact that conditional reflexes could be a substitute for introspection and therefore, a more objective method. There is no allusion to the theoretical aspects of Pavlov's research in the work of Watson, who even expressed his preference for Bechterev's motor preparation, and considered the salivary reflex to be of limited applicability and utility,

Many years later, in 1955, Spence, the star pupil of Hull, was invited to deliver Yale's most prestigious lecture course: the "Benjamin Silliman Memorial Lectures." Spence took advantage of the occasion to present his theory of learning and conditioning, and began with a historical presentation of the discipline. In the written text of the lectures, Spence offers his title "Historical and Modern Concepts of Psychology." The fact that Spence does not mention Pavlov there is of great interest in relation to the issue we are dealing with in the present work. We should bear in mind, moreover, that Spence (1956) had written in the preface to his book: "Essentially this research and its accompanying theory represent an extension of pioneering work in the area of the conditioned reflex of Pavlov in Russia and of Hull in this country" (p.vi).

A final example is related to Skinner, one of the American psychologists that most disagreed with Pavlov. We should recall that in his autobiography, Skinner mentions that the first books in his psychology library were *Philosophy*, by Russell, *Behaviorism*, by Watson and *Conditioned Reflexes*, by Pavlov. His principal work, *The Behavior of Organisms: An Experimental Analysis* (Skinner, 1938), constitutes a good example of the symbolic components — no author is cited as often as Pavlov — and the methodological ones — the emphasis Skinner placed on control is a clearly Pavlovian legacy. Skinner's veneration for Pavlov was also visible at a more domestic level. Thus, Skinner, psychologist who was not wont to express unconditional admiration for anyone, and who has so often been described as being opposed to physiological studies, had a photograph of Pavlov on the wall of his office throughout his entire academic life — a photograph which, after his retirement from Harvard, he hung in the study at home, along with those of his family and of his friend Keller (Catania & Laties, 1999).

The second type of influence to which I referred above was of a more methodological nature. This form of interpreting the influence of Pavlov can be found in many of the contributions to this special issue (see Aguado, Mackintosh and Rescorla 2003). This form of analyzing the contemporary influence of Pavlov circumscribes it to a particular aspect of his work: the conditioning we refer to today as Pavlovian. The significance of the technique is beyond doubt, even though salivary conditioning has rarely been used by psychologists. What is remarkable in this case, at least from a historical point of view, is that this type of influence has dissociated two things,

that in the work of Pavlov, have become inseparably linked: the technique of conditional reflexes and the theory of higher nervous activity. A good example of this can be found in the first work that Hull concentrated on the functional aspects of the conditional reflex, and avoided touching on the physiological aspects of Pavlov's theory (Hull, 1929).

The methodological influence was key for the development of behaviorism, as its theoretical vocabulary became replete with terms emerging from Pavlov's laboratory. Nevertheless, this process of linguistic importation did not signify the acceptance of the Russian's theoretical points of view. The technique of conditional reflexes was accepted not for its values in the clarification of the nervous processes occurring in the large hemispheres, but rather for its importance in making an objective explanation of learning processes possible.

Another interesting example of this methodological influence can be found in Mateer, one of Burnham's students. Burnham had been one of the founders of the mental hygiene movement at the beginning of the twentieth century, and a professor of Educational Psychology and School Hygiene at Clark University. In 1916, Mateer wrote her doctoral thesis under the direction of Burnham, entitled, *Child Behavior: A Critical and Experimental Study of Young Children by the Method of Conditioned Reflexes* (Mateer, 1918). This is an original and little-known work in which Mateer succeeded in replicating the experiments carried out with children by Krasnogorski, one of Pavlov's students. But it was no mere replication of that work: Mateer improved the technique of conditioning and correlated her results with other measures, such as age, sex, and intelligence, in two samples of children: normal and mentally retarded (Windholz & Lamal, 1986).

Mateer's experiments with children were carried out between 1914 and 1916. The procedure she used for establishing the conditional reflex was quite ingenious. The boy or girl's eyes were covered with a bandage, the conditional stimulus, for twenty seconds. At eleven seconds they were given a piece of chocolate, and the bandage was removed as soon as the twenty seconds had elapsed. After three minutes, the trial was repeated. During this interval, she administered different intelligence tests to the children and took anthropometrical measures. Mateer (1918) recorded chemographically the movements of mastication and swallowing provoked by the chocolate, and wrote the following: "The child was considered to have learned to associate the bandage with the feeding of chocolate when he twice in succession opened his mouth for the chocolate had elapsed" (pp.98-99).

Mateer used two samples of boys and girls, normal and retarded. There were 67 children in total, with ages ranging from twelve months to seven years. Her experiments showed the formation, retention, inhibition (extinction) and reconditioning of the conditional response. Some of her results revealed that, for example, the children in the normal group learned the association rapidly (3 to 9 trials), even if this number depended on age (as age increased, mean number of trials decreased) and sex (under age two, boys learned more rapidly; over two years of age it was the girls that were quicker). In boys and girls of the same age, Mateer found a positive correlation between the results on the Binet and Yerkes scales and the speed with which the conditional response was learned. Finally, the main difference she found between the two samples of subjects was related to the number of trials necessary for the development of inhibition: only 42% of the children from the retarded group inhibited the conditional response in a number of trials that fell within the range of performance observed in the normal group.

Thus, studies such as Mateer's introduce into the historical investigation of psychological data that conflict with the classic interpretation of Pavlov's influence, which is based exclusively on the well-known binomial "Pavlov-behaviorism".

We shall now concentrate on the third type of Pavlov's influence and the most theoretical, his theory of higher nervous activity. Let us begin by recognizing that this is probably the type of influence that has been least commonly found outside of Russia. One of Pavlov's students, Frolov (1937), referred to this matter shortly after the death of his mentor; after mentioning various names and countries. In regards to America he said:

At the present time, experiments using the method of conditioned reflexes are being performed in the following laboratories: USA: Ithaca (New York State)- Cornell University. The work of Liddell and his collaborators. Baltimore (Maryland)-The Laboratory for conditioned reflexes belonging to Adolf Meyer's Psychiatric Clinic. The work of W. Gantt and his collaborators. Some of the collaborators of Liddell and Gantt are now undertaking independent work by the same method. (pp. 280-1)

Babkin, author of one of the biographies about Pavlov, quoted a letter from Lashley in which the American psychologist spoke about Pavlov's influence:

[Although Pavlov] pointed the way to fundamental investigation on the physiology of the brain ... this way, unfortunately, was not followed systematically in America and very little was added to further analysis of the cerebral functions with the help of this method (*). Paradoxically, many psychologists, in whose current works the influence of Pavlov's theories can be most clearly traced, have turned to the development of conceptual nervous systems from which all neurological interpretations are rigorously excluded. Thus the chief theory seems to have been diametrically opposed to Pavlov's expectation of using his studies as a basis for the physiological explanation of behavior ... (Letter from Lashley to Babkin, 1946; cit. in Babkin, p. 322)

Apart from the special relevance of the letter to the issue we are dealing with here, there is also an interesting footnote added by Babkin himself and referenced in the text by the asterisk "(*) We must not forget the work of Gantt Dworkin, and Liddell" (Babkin, 1949, in footnote 3, p. 344).

This opens up a new perspective on the problem of Pavlov's influence, that in no way reduced his reception by behaviorism, and which has to do not only with the symbolic and methodological components, but also with the theoretical aspects of his work. We have just seen how the names of Liddell and Gantt were presented by disciples of Pavlov as followers in America of the Russian's works. However, the theoretical component is also present in other disciplines related to ours or in certain conceptual domains of psychology itself. From this perspective, the theoretical influence of Pavlov would have made its presence known in areas as apparently disparate as those of cybernetics -- Ashby (1952), Walter (1953) and Wiener (1948) -- and early electroencephalography (Walter, 1953), as well as in the psychology of personality (Eysenck, 1957; 1967; Gray, 1964; Strelau, 1972), and psychiatry (Astrup, 1965, Salter, 1961).

Thus, now that the historiographical problem of Pavlov's influence has been more clearly outlined, and that the nature of this issue appears more complex than might initially have been suspected, We shall move on to consider two of the historical figures mentioned above, Gantt and Liddell, whom we consider to be representative of what we might call, *sensu strictu*, "Pavlovians in America" (Ruiz, Sanchez & De la Casa, 2002a).

Gantt and Liddell

Gantt (1892-1980) received his Bachelor of Science degree from the University of North Carolina, majoring in psychology, and philosophy, and obtained his M D from the University

of Virginia in 1920. In 1922, Gantt set sail for Petrograd (Leningrad), as part of the American Relief Administration, which provided medical aid to Russian citizens in the wake of the First World War. Gantt worked in Pavlov's laboratory between 1925 and 1929. In 1929, Meyer brought him to Johns Hopkins as director of the Pavlovian Laboratory, which Meyer had set up with the aid of the Rockefeller Foundation, and which Gantt presided over until his retirement in 1958. His work in charge of that laboratory, his translations of Pavlov's main works and those of many other Russian authors (Luria and Bykov, among others) and his role as founder of *The Pavlovian Society* and the journal *Conditional Reflex*, make him the focus of attention in our article.

Gantt's career was littered with distinctions: In 1946 he received the *Lasker Prize* for his book *Experimental Basis for Neurotic Behavior. Origin and Developmental of Artificially produced Disturbances of Behavior in Dogs*, published in 1944; in 1950 he was awarded the American Cardiological Association Prize for his research on the cardiological conditional reflex and hypertension; in 1970 he won the Nobel prize for physiology and Medicine; in 1972 he received the Gold Medal from the Society of Biological Psychiatry; and in 1975 he was awarded the van Giesen prize by the Psychiatric Institute of New York and the Purkinje Medical Society (Heaton, 1986).

Liddell (1895-1962), graduated from the University of Michigan and was awarded his doctorate at Cornell, the university at which he spent the rest of his academic life. He founded and directed the *Behavior Farm Laboratory*, which after his death was re-named the *Liddell Laboratory of Comparative and Physiological Psychology*. To Liddell goes the honor of having set up, in 1924, the first American laboratory of conditional reflexes (Liddell, 1926).

Liddell had begun as an assistant to Simpson in 1922. Simpson was interested in endocrinological research, and gave Liddell the task of experimentally analyzing the functions of the thyroid in development, heart rate, body temperature, activity and ability to learn simple tasks (e.g., mazes). If cretinism was a symptom of serious alterations of thyroid functioning, Simpson and Liddell hoped to find evidence of alterations in learning after removal of the gland. However, the maze was not convincing as a sensitive procedure. Reading Pavlov's Huxley Lecture, published in *The Lancet* (Pavlov 1906), and a stroke of luck -- Anrep was in New York giving a course of lectures on conditioned reflexes in the spring of 1923, convinced Liddell of the potential of the Pavlovian technique. From that time on, Liddell began a research program, of a markedly comparative nature, using the technique of conditional reflexes. Gantt and Liddell, and their respective laboratories, maintained a close relationship that began in the summer of 1926, when Liddell visited Leningrad and met Gantt in Pavlov's laboratory (Liddell, 1956).

Methodological Attitudes and Conceptual Contributions

In what follows, we shall summarize the aspects that make these authors unique. With our ultimate purpose of this article in mind, two points should be made. The first concerns the historical situation of American psychology in the period in which Gantt and Liddell began to make their contributions: the 1930s, a decade marked by the rise of neo-Behaviorism. The second is that the contributions of Gantt seem to us, from the historical point of view, to be of more relevance than those of Liddell. Thus, this section will be organized according to the contributions of the former, with the latter appearing when his presence has historical significance.

As far as methodological aspects are concerned, both men were fervent advocates of the

single-case study. Pavlov had always maintained a critical attitude towards the methodology of the "one-off" physiological experiment customarily employed by his contemporaries (see To des, 2002, pp.84 onwards). In contrast, he preferred long term preparation; the study of the subject over long periods of time. It is not surprising, then, that Gantt and Liddell continued these methodological traditions. Indeed, one of the most notable examples is constituted by the case of three dogs, "Nick," "Fritz," and "Peter," which Gantt studied for 12 years (Gantt, 1944).

As we might expect, from this type of approach there derived a highly critical disposition with regard to statistical inference:

Of more importance than the classification into groups, even with the most closely correlated characteristics, is the thorough study of the individual. The large number of possible combinations of factors of susceptibility make the study of the individual more revealing than the statistical summary based on an average of a given characteristic in many different individuals. The variations are often more important than the average. (p. 176-7)

Clearly, when the time window of the study transcends the limits of the experimental session (s) and impinges on the life of the individual, then aspects related to individual differences, social factors or the very internal dynamic of the processes studied take on significance. These issues which had such specific weight in the work of these authors, as we shall see below, aroused little interest in many of the behaviorists advocating the approach of Pavlov:

The material of this monograph has been obtained by the intensive, prolonged and comparative study of a few individuals rather than by subjecting large numbers of animals to a set procedure. By this method we are able to see individual differences. And though we are unable to state what per cent of animals break down or what happens in the total population, we get a clear picture of what may happen to individuals.

A large number of animals is desirable when we want to rule out individual variations. But in a study such as this, the individual is one of the important factors, and an average with other animals in a large group would tend to obscure just the thing we wish to observe. It is the detailed and controlled study of each dog separately, and not the statistical average that reveals the mechanism of the disturbance; a statistical summary and average in such studies would tend to eliminate just those personality differences that we wish to see... (Gantt,1944,p.178)

What were the conceptual contributions of Gantt? Ban and McGuigan (1987) and Harvey (1995) have systematized some of these contributions.

One category of studied would be related to the role played by the components of the reflex arc in the establishment of a conditional reflex. Gantt's research led him to conclude that the activation of the efferent peripheral routes of the conditional reflex was not a necessary condition for its formation. However, he demonstrated that it was possible to establish a conditional reflex by pairing an auditory conditional stimulus with direct stimulation of the brain tissue (Brogden & Gantt, 1942). These studies led Gantt to propose the term *centrokinesis* to refer to the fact that the stimulation of isolated organs with no afferent entrance to the central nervous system, cannot give rise to the formation of a conditional reflex. Conditional responses require the entering stimulus to reach the central nervous system. This is a concept that extends the Pavlovian concept of "analyzer" (Wolf, 1987).

One of the most relevant aspects of Gantt's work revolves around the conditioning of visceral systems. Gantt measured the cardio-respiratory changes accompanying food-related conditional reflexes, finding that, while heart rate was more easily conditioned, this condition-

ing was also more difficult to extinguish than the salivary response. These studies, in which the activity of different systems was registered simultaneously, allowed him to demonstrate the existence of a disharmony between the different components of the conditional reflex. Gantt (1953) coined the term *schizokinesis* to refer to this dissociation, and considered it as an innate discordance between general emotional responses, such as heart rate, and other types of response, such as salivary secretion: "the inherent conflict between the general emotional responses and the more perfectly adaptive (schizokinesis)..." (p.162).

In the course of these observation on the conditioning of visceral systems, Gantt embarked on a systematic study to replicate the conditioning of the renal functions that Bykov had obtained (1957). After many failed attempts, Gantt concluded that these functions could not be conditioned and coined the term "organ-system responsibility" to refer to those situations in which conditioning lacked adaptive value or, as in the case in question, notably reduced the possibility of survival. In such cases, conditioning would not be appropriate. This led him to question the work of Miller that demonstrated the possibility of conditioning these renal function (Gantt,1972; Livingston & Gantt, 1968; Miller & Dicara, 1967).

Faced with the evidence of these results that revealed the limitations of conditioning, Gantt (1982) stated that the conditional reflex could never run counter to homeostasis: "the formation of a conditional reflex in greater or lesser degree is in relation to the physiological function of the system upon which it is operating. A conditional reflex appears impossible too, for it would violate radically the function performed by this system in the body economy, thus opposing the principle of homeostasis" (p.121).

Earlier, we mentioned some studies carried out by Gantt on three dogs over a period of twelve years (Gantt, 1944). In these studies, one of the animals, Nick, received discriminative training that produced the characteristic neurotic symptoms that Pavlov had already observed in his studies. But the most significant result of this study was that Nick continued to show these nervous symptoms for 10 years, even though there was no further presentation of the conflictive experimental situation that originally triggered them. Moreover, as Gantt (1970b) wrote:

It is remarkable in Nick not only that the nervous symptoms continued for 10 years without repeating the original conflict but that the spread to the urinary and sexual systems did not occur till after 1935, several years after the conflict. That they were related to the conflict is shown by their appearance only in the experimental environment ... (p. 320)

Gantt used the term "autokinesis" to refer to the process of internal development that may result in the appearance of new symptoms, even many years after experiencing the situation of pathogenic conditioning. Nevertheless, although Gantt identified this process of internal development that may be responsible for the propagation and perpetuation of pathological symptoms, the possible mechanisms involved in it have yet to be determined (Corson and O' Leary, 1987; Gantt, 1953).

When we referred above to Gantt's use of single-case designs, we mentioned that these longitudinal studies permitted him to observe aspects related to individual differences and social factors. In this regard, one of the most singular contributions of Gantt is that which refers to what he called the "effect of person." As early as 1936, he had observed that a person could alter the heart rate of a dog simply by entering the same room or stroking the animal. In his 1944 book he made the following observation;

On this day, experiments were done to show the effect of the social factor on anxiety. Although it had been previously noted that the approach of a person who had worked with the dog would often bring on the raucous breathing and other pathological symptoms. Conversely

we saw that standing close to the animal and more particularly stroking and petting him prevented or dissipated the symptom of anxiety. Thus when I or either of two strangers (H.S.,K.) petted the animal there was no reaction to the tone, but the tone tried alone on the same day gave the typical reactions-whining, dyspnea, retreating, erection...(P. 85)

Many years later, Gantt (1970a) wrote:

The inclusion of cardiovascular measurement in conditional reflexes makes possible the detection of factors not hitherto easily recognized. Such a factor is the effect of one individual on another. This effect is both generic and specific. Thus all human beings when petting the dog ...produce a marked slowing of heart rate, while the mere presence of a person usually accelerates the heart, depending upon the relationship of that particular person to the dog ...this effect may be specially marked in pathological animals...(P.88)

It is not unreasonable to state that this effect of person has important implications for clinical practice in general and psychotherapy in particular. Nevertheless, these implications have still not been studied in a sufficiently rigorous manner (Lynch, 1987).

To conclude this section, we should mention another significant contribution of Gantt; that which refers to the early detection of the propensity to mental illness (Gantt, 1969). How could this objective be achieved? Gantt proposed methods for the detection of predisposition to crisis. How plans were based on the study of conditional reflex behavior during childhood. The introduction of mild stress while the child was solving discriminative tasks made it possible to measure the extent and duration of the resulting disorder in relation to the motor, cardiovascular and respiratory function.

Centrokinesis, schizokinesis, autokinesis, organ-system responsibility, effect of person-- these constitute a set of terms that Gantt derived from his studies on conditional reflexes. In our view, it could be said that the empirical basis of all of them would be found in the studies related to "experimental neurosis" (Gantt, 1944, 1953). In those works, Gantt, and also Liddell, discovered new etiological factors that Pavlov had not taken into account. Thus, for example, Liddell (1953) emphasized the predominance of emotional factors over cognitive ones in the onset of these disorders, and the importance of the vigilance reaction in the origin of the perturbations:

We shall not understand the dynamics of the experimental neurosis if we think of positive and negative conditioning in cognitive terms, similar to those employed in explaining the dispassionate judgments of the subject in the psychophysical experiments. ... It is the raw force of this primitive sentinel reaction, which I spoke of earlier as the emotional undertow of behavior. Through its action, the delicately adaptive performances may be completely inundated adaptive performances may be completely inundated or submerged, as in cases of panic during fire or shipwreck. (pp. 166 and 169).

Meanwhile, Gantt (1953) stressed the individuals temperament :

My investigation of experimental neuroses emphasizes that other important factors are present besides that of the difficult differentiation, which was discovered by Pavlov. First is the innate susceptibility of the individual to breakdown, and second are many details of the environmental stress situation, especially including the individuals concerned in the experimentation. The development of the neurotic breakdown may occur in both space and time; i.e., it may spread to many physiological systems apparently not involved at first, and the spread may continue for a number of years after the original conflicting situation has been removed. (p.162)

The issue of "experimental neurosis" is one that merits a detailed historical analysis. In our opinion, what is most interesting, in relation to this matter, is the opportunity offered to the historian to study a fairly well-defined conceptual domain, which emerged and disappeared within a relatively specific period, the 1940s and 50s, and which involved authors from different traditions and different disciplines, such as Gantt, Dollard, Liddell, Maier, Miller, Masserman, Mowrer, Wolpe, and so on. This is another indication of the "transversality" of Pavlov's influence on American psychology.

The 1950s: the Pavlovians become established

In May, 1955, Gantt founded the *Pavlovian Society of North America* (which later changed its name to the *Pavlovian Society*). Gantt himself recounts the events in an interview by some of his students in 1972:

Liddell and Kempf, and especially Liddell and I, wanted to form a group of people to meet and discuss conditional reflexes. There was no such society in this country at that time, nor was there any kind of forum for what Liddell and I were doing. And so we got together to start a group ... There were just a few people who were doing that specific kind of work at that time. Then, later I had the idea of expanding it and making it interdisciplinary to include people from several domains of interest, to make a kind of a balance in the society and keep it to small numbers: 125-150 domestic members among groups chosen from internal medicine, cardiology, physiology, psychology, and with some other people from other disciplines. (Reese, Peters, & Dykman, 1987, p. 35)

The first scientific meeting of this society took place in that year, at Liddell's laboratory in Ithaca, as an act of recognition of his veteran status in research on conditional reflexes. Gantt asked Reese, Kempf, Rioch and Liddell himself to form part of the executive committee of the Society

Gantt wished to create an interdisciplinary society in which physiologists, neurologists, psychologists and psychiatrists would meet and discuss as equals, even though he had expressed on more than one occasion a certain mistrust of experimental psychology. As the Society's president, Furedy (2001), recently told its members:

[Gantt] did not want "too many (experimental) psychologists" in the societyLike many prejudices, this one of Gantt's had a grain of truth, especially during those times when most experimental psychologists tended to be quite insular in their theorizing. Recall that at this time Skinner and his followers actually advised psychological explanations, not only to eschew organismic psychological explanations, but also any reference to physiological functions. And even I in the Hull-Tolman groups, physiological psychologists like Miller were quite rare.(p.9)

Liddell(1953) was similarly critical: "Behavior theory is, I suspect, cluttered up with gimmicks. Pavlov's 'newly formed nervous pathway' is a gimmicks, and so, I believe, is Freud's 'libido.' In my opinion, 'tissue needs', 'need-reduction', many of the postulates, theorems and their corollaries, together with the formal nerve nets of contemporary psychology, partake of the nature of conceptual gimmicks." (p.170)

Some years passed before the society was able to make use of a periodical publication to channel all the research carried out. In 1965, Gantt founded the journal *Conditional Reflex* (1966-1973), which subsequently changed its name to *The Pavlovian Journal of Biological Science* (1974-1990), coinciding with the appointment of McGuigan as editor, and more recently was changed again to *Integrative Physiological and Behavioral Science* (from 1991 to the present), under the editorship of Wolf.

Both the society and the journal, at least during their early years, were practical of the experimental psychology of their time and so distanced from the methodological standards and statistical analysis prevailing in it, were almost obliged to organize themselves institutionally.

Quite similar reasons were put forward by the Skinnerians for founding their society (1957) and their journal (1958) (Laties, 1987).

This process of institutionalization initiated by Gantt coincided in time with a loss of power for academic psychologists within the American Psychological Association (APA)¹. An indication of this was the attempt by Spence and Graham in 1948, shortly after the APA set up its divisions, to take Division 3 (Experimental Psychology) out of the Association. Although that attempt was fruitless, some years later Spence was involved in a second and more ambitious attempt that was finally successful. The result was the foundation, in 1959, of the *Psychonomic Society* (Dewsbury & Bolles, 1995).

It is interesting to analyze the nature of the interactions between the two societies, if indeed there were any. It is worth mentioning that Brodgen, who had worked in Gantt's laboratory from 1936 to 1939, was a member of the organizing committee of the *Psychonomic Society*. Gantt also played an active part in the creation of other markedly Pavlovian associations, such as the *Collegium Internationale Activitatis Nervosae Superioris* (CIANS), founded in 1960.

The CIANS also publishes a journal, *Activitatis Nervosa Superior*, founded in 1959, and which, since 1991 has been called *Homeostasis in Health and Disease*.

New York, October 1960

October 13th, 14th and 15th of 1960 saw the celebration, at the New York Academy of Sciences, of the *Pavlovian Conference on Higher Nervous Activity*. Kline and Razran chaired the meeting. Those who attended the sessions, as well as the content of the proceedings, were highly representative of the Pavlovian traditions we wish to put into historical perspective in this work (Kline, 1960).

Both Liddell and Gantt played a leading role, together with a large group of researchers from neuroanatomy, neurophysiology, psychiatry and psychology. The only psychologist that participated as a speaker was Miller. Solomon, Spence and Kimble intervened in the discussions. Razran also participated in vice-president of the event, together with the prestigious psychiatrist Kline.

The interventions of the American psychologist are of great interest, since they are highly indicative of the type of discrepancy prevailing between the methodological and theoretical influence of Pavlov in the neo-Behaviorist approach, and which we already, mentioned at the beginning of this article. Thus, for example, in Solomon's intervention we can see clearly how the theoretical interpretation of phenomena of conditioning operates on a different level to that of higher nervous activity, specifically in the framework of the Two Processes theory. In

* The following anecdote, recounted by Skinner in his autobiography, illustrates perfectly the nature of the changes taking place in the APA. In reference to the APA's presidential elections, Skinner writes: "I have discussed the matter with Keneth Spence and Neal Miller, who were also disturbed by the way in which the election were conducted, and Ken joined me in deciding not to run. In 1964, however, his name was on the ballot and in late July he wrote to explain why he had changed his mind: he had wanted to prove that an experimental psychologist could not be elected. I replied that I hated to disillusion him, but I was sure he would win. 'My own reason for not running has always been that I was afraid I would also. I am interested in no more than five percent of the activities of the Association, and I have no inclination to become familiar with the other ninety-five'. Ken proved his point; he was not elected" (Skinner, 1983, p. 287).

phrases such as the following, Solomon himself underlines the difference between the American and Pavlovian approaches: "In the Pavlovian conditioning laboratory, phenomena very often are looked at very differently than they are in the American tradition, which is typically Thorndikian and involves, whether we like it or not, concepts such as motivation, drive, and reward" (Kline, 1960, p. 1065).

However, it was in Spence's intervention that many of the aspects discussed here were most clearly explained. The importance of this text justifies an extensive quotation from it:

As a psychologist whose special field of interests lies solely in behavioral phenomena and not in its neurophysiological basis, I find myself unable to comment in any specific manner on the research studies presented in these pages. Instead, I should like to record a brief methodological note concerning the influence that the man we honor on this occasion, I. P. Pavlov, had upon the development of modern objective psychology in the United States. More particularly, I should like to call attention to the important role that the writings of Pavlov played in the behavior theory approach to simple learning phenomena, including conditioning, developed at Yale University, New Haven, Conn., by Clark Hull and those of us allied with him.

The Pavlovian influence upon our work was such, in fact, that the Karl Lashley a number of years ago, fell into the habit of designating Hull, myself, and others of our group as neo-Pavlovians. While I am sure that Hull felt, and I know that I did, that the designation was a great compliment, I have always had serious reservations about it: first, as to whether Lashley intended the designation to be complimentary, and second, whether, whatever Lashley's intention, Hull and I really deserved the label and, if we did, in what sense.

Table 1

Pavlovian Conference on Higher Nervous Activity (October 13-15, 1960)

	Introductory	Remarks	Authors	Discussants
Structure and Function			Magoun Miller Purpura Morrell Grundfest	Pribram Galambos Anokhin Magoun Kupalov
Cortico-subcortical Interaction	Fremont-Smith		Anokhin Doty Clynes	Jasper Majkowski Mettler Himwich Aokhin
Deviance and Drugs			Liddell Zakusov Marrazzi Kline	Grundfest Zakusov Miller Killam Marazzi Lehman Kerbikov Lebensohn Lasagna Kline

Irradiation and Generalization		Kupalov Brazier	Kupalov Solomon Heath Razran
Psychopharmacology	Gantt	Snezhnevsky Kerbikov Heath	Lehman Lasagna Snezhnevsky Kline Simpson Metlier Callaway III Kerbikov
Inhibition		Asratyan John. et. al. Callaway III	Spence Kimble Pribram

... It is certainly true that in turning his attention in 1929 to the area of learning, Hull was greatly influenced by the timely G.V. Anrep translation of Pavlov's Petrograd *Lectures on Conditioned Reflexes* ... However, whereas the interest of Pavlov and his colleagues in these experiments was in the knowledge they might provide as to the nature of the activity of the central nervous system, particularly its higher cortical divisions. Hull's and my interests were in the laws of conditioned behavior per se.

At any rate, on the basis of the empirical laws obtained in these conditioning studies we attempted to develop a theoretical schema consisting variables familiar examples of which are habit strength (H), drive strength (D), excitatory potential (E); and inhibition...

The question naturally arises as to what the relation of these concepts abstracted from behavioral data is to neurophysiological concepts or processes. Hull, it will be recalled, was fond of attempting to make such tie-ups. Thus he related his concept of habit strength (H) to the strength or degree of conductance of a receptor-effector connection. Actually, however, Hull made little or no use of such coordination in his research program, apparently suggesting them merely as hints or guides to interested physiological psychologists. In contrast to Hull, I have never had a strong compulsion to engage in such thinking, I have not attempted to relate systematically our intervening variables to possible neural processes or matters. I am hardly in a position to state whether attempts at such coordination are at present fruitful or even feasible ... (Kline, 1960, p. 1187-1189)

As we are sure the reader will agree, these extracts speak for themselves.

Final remarks

The fact that Pavlov has influenced American psychology and psychiatry is beyond all doubt, even after such a critical approach as that presented here. what we are questioning, however, is the classic way of interpreting his influence, that which has reduced it to its reception by the behaviorism of Watson and of Hull. if what is meant by this "inherited view" is that which we have described as the symbolic and methodological components of his influence, then we could not agree more. Quite another matter, as we saw above, is the question of his theoretical influence.

After Watson's presidential address, published in 1916, the conditional reflex began to

appear in American textbooks, even though very few psychologists published experimental work on conditioning. Apart from the experiments of Mateer referred to above, Lashley developed a method for registering the salivary response in humans (Lashley, 1916a, 1916b), though he was extremely critical of conditioning studies in his 1929 book. Hamel (1919), using a motor preparation, concluded that conditioned reflexes in man were a reaction dependent on consciousness, and therefore, somewhat different from true reflexes. Cason successfully conditioned the pupillary light and palpebral reflexes in (Cason, 1922a 1922b). Schlosberg conditioned the human patellar reflex (Schlosberg, 1928), and Hilgard carried out research on the conditioning of the palpebral response (e.g., Hilgard, 1933a, 1933b).

However, the theoretical impetus received by American psychology, more than Pavlovian, was "Thorndikian;" it was more concerned with motor activity and the consequences of behavior than with glandular responses, and, above all, there was a quest for explanations in terms of connections between stimuli and responses, more than an appeal to nervous processes occurring in what Pavlov had called "large hemispheres."

From the perspective proposed in this article, the term "Pavlovian," now as a historiographical category, appears to better characterize authors such as Gantt and Liddle than others, such as Watson or Hull. There is in the former, a systematic view of the organism, which is lacking in the latter. The subject is conceived as a unit that results from the coordinated activity of the different physiological systems of which it is made up, thanks to the action of the nervous systems. Let us recall that Gantt took measures from different systems. (glandular, motor, cardiac, etc.), which permitted him to talk about concepts such as *schizokinesis*, referring to the existence of a disharmony in the activity of some of them.

In addition to Gantt and Liddell, some of Pavlov's collaborators settled in America and founded laboratories. Such was the case, for example, of Believe and Babkin. Boldirev set up a Pavlovian laboratory in 1922 at the Battle Creek Sanitarium and Hospital clinic in Michigan. This laboratory, after Pavlov's visit in 1923, was called the *Pavlov Physiological Institute* (anonymous, 1929). Babkin was Professor of Physiology at Mc Gill University from 1928 until 1942, and carried out important work on glandular secretions and the nervous system, though he is better known among psychologists for having written a biography of Pavlov (Babkin, 1949).

We might also refer to other authors, such as Rarran, whom we mentioned earlier, who for many years was one of the main disseminators of Soviet literature, and who kept a far distance from the corridors of power of the *Pavlovian Society* founded by Gantt. The list could even be further extended if we were to take into account not just the USA but also Latin America. In such case we would have to reserve special mention for Alvarez-Buylla, originally from Asturias in northern Spain, and who, like so many others, began a life of exile Spain for the Soviet Union when he was very young. He studied medicine at the University of Rostov, and wrote his doctorate under the direction of Anokhin. In 1947, Alvarez-Buylla arrived in Mexico, where he did some outstanding research, first at the *Escuela Nacional de Ciencias Biologicas* and the *Centro de Investigacion y Estudios Avanzados* of the *Instituto Politecnico Nacional*, and later at the *Centro de Investigaciones Biomedicas* in the University of Colima (Fernandez Guardiola, 1997; Giral, 1994). He was the true pioneer of the introduction of conditioned reflexes in Mexico, and demonstrated, using Pavlovian procedures, that the central nervous system intervenes in the compensatory mechanisms that come into play on the activation of chemoreceptors due to lack of oxygen or glucose (Alvarez-Buylla, 1950; Alvarez-Buylla & Carrasco-Zanini, 1960).

While underlying the historical presence of authors such as Gantt or Liddell when considering the influence of Pavlov in American psychology, we must not neglect to acknowledge at the same time an obvious fact: These Pavlovians moved on the periphery of the dominant neo-Behaviorist currents in American psychology at that time. This marginality was quite probably the consequence of a constellation of methodological, theoretical and even personal features. We have already mentioned the interest of these authors in single-case designs, in longitudinal studies; this clinical approach, accompanied by the interest Gantt had shown in differences between individuals, distanced him from the principal methodological perspectives in psychology at the time. Gantt (1944) himself put it this way in his book about experimental neuroses in dogs:

In order to study the susceptibility of the individual I have made use of two lines of information; first, observation of all the natural vicissitudes in the animal's life and environment such as is outlined in the dynamic life chart of Adolf Meyer, second, placing the animal in a position of natural or artificial stress or conflict and noting his reaction and susceptibility measured in as many physiological systems as possible. (p. 17)

If to all of this we add his unique personal features, such as his scant concern for publishing quickly, we have the impression that Gantt was a figure of another era, a scientist of the nineteenth century, quite removed from the publish or perish stereotype so characteristic of the American scientific community after the Second World War. One of his collaborators recounts an interesting anecdote in this regard:

I chose to study the effect of unconditional stimulus intensity on heart rate conditional response (CR); duplicating work Dr. Gantt had done earlier on the salivary CR. When I completed this project. I turned the paper over to Dr. Gantt for review. He read it, made some minor editorial changes, and sent it on to Dr. John Whitehorn, current head of the Phipps Psychiatric Clinic. When after six weeks I had heard nothing, I asked Dr. Gantt about the paper, implying that I should like to get it off for publication. His response was: 'Don't worry about the paper. If the work is worthwhile it will be valuable whenever it is published. Dr. Adolph Meyer, then head of the Phipps Clinic, sat on my first paper for some five years before sending it back with a note saying that I could submit it for publication. I never bothered to ask him about the paper and believe that he didn't care much for it' ... (Reese, Peters, & Dykman, 1987, p. 53)

However, the clash between Gantt and the psychology of his time may also be a result of the perceptions of psychologists themselves towards the theoretical proposals of these authors which, as suggested in the text by Spence quoted above, may be seen in terms of reductionist assumptions. For a physiologist such as Gantt, interested in the study of the complete, "brainy" organism, the problems it raises are of a quite different nature from those that the encounter with the brain, with encephalic physiology, presented for any psychologist of that time, such as Spence. It is not inappropriate to recall here that this matter was indeed dealt with by Pavlov in his Madrid lecture.

In sum, the influence of Pavlov in American psychology is not only the product of the importance of his work, or of some aspects of it: It is also, or above all, a consequence of the very characteristics of that psychology, already established in a tradition with an interest in learning, into which Pavlov's work was incorporated mainly as a model of objectivity and as a demonstration of the feasibility of Watson's old desire to make psychology a true natural science.

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Dr. Dhirendranath Gangopadhyay Memorial Lecture - 2007

Speaker : Prof. Palasbaran Paul

Venue : Bangla Akademi, Kolkata

Date : 20th December, 2007 at 4 p.m.

Subject : Science Movement and Society

From the desk of the mind-painter

Around fifty years old Nandita Mullick came inside and stood with a fat diary bound in blue rexin and held close to her chest. It was evident that, the dizziness of the doubt – whether the path, through which she had arrived at the twilight of life, was her own – was sticking to her appearance.

The past was not her own, the future is lull and she was tottering like a point only, while standing on the present – her vision explained so. There was only that diary, with the blue rexin binding held tightly to her bosom, to call her own.

She did not put any make-up, her get up and hair were disorderly. As if there were many a things to say, yet as if there was nothing to tell, what difference would telling make after all – in between these two contradictory expressions her mind vacantly went outside the window. I asked her to take a seat – she sat down like a picture.

Having proceeded the diary she said – There is nothing to say, whatever I have to say is written in this one. You can read it yourself or I can read it for you. On turning the cover of the diary I found a picture of a lamp drawn very carefully on the first page – does she paint well? – I had a great desire of learning painting, nothing particularly happened.

She had started methodically to write the headlines quite slowly and carefully in bold letters towards the beginning of the diary. Later on with the progress of the writing, care and artistry had been shed and speed had started to mix up. The arranged letters while breaking down had started to mix up with the wind of the storm and with the speed of the lightening.

Towards the end the letters as if in some restlessness were trying to run fast towards where nobody knows! Having turned over the pages at last I asked only her to read on.

“Since childhood I am hearing only one word – forsake, forsaking is life. One who endures is respectable, one who doesn't endure gets destroyed. If you expect you have to be disappointed. The reality doesn't carry on with feelings and emotions.

Reality means – be practical. Do the words 'be practical' then mean forsaking, enduring not expecting? Or is it instead serving and taking care of others' comforts and discomforts, becoming a robot fulfilling whoever has whatever demands? Life is for once, it has no present life or after-life.

Let your work be the introduction to your life. The aim of the life should be that of becoming a good human being. What does a good human being mean? To forget the self? Don't keep anything called individuality? Become the highest point of renunciation, tolerance and patience? A forsaking practical robot? It took many years to make myself a non-expecting piece of wood – I reached fifty. I feel a somewhat restlessness inside – my life is nearing its end!”

“Only the one who gets over the lifestyle needed to make oneself a piece of wood and bind oneself within an angry, strict and cruel activity throttling all wishes, expectations and desires, knows what it takes to do so.”

At night Nandita lies just like a piece of wood. She does not respond even when her husband comes closer. A calculation keeps on going within – which works she has to do to start off the day on getting up early next morning. She feels a certain type of comfort on starting that particular intoxicating calculation.

While going through the works and the calculation of works one after another, one could thoroughly realize what an impossible anxiety dealing with the life has passed by and the inner self feels to be lighter. All times when she feels good to look at the sky and the trees outside, she goes out to the streets. But as she does so, the pictures of nice and successful lives outside stand in stark comparison beside her own meaninglessness and triviality.

She feels the outside world to be somewhat unknown to her, she becomes fearful, her body starts sweating and her chest palpitates. Nandita almost running comes and stands right inside the kitchen in her own house. In every nook and corner where lies the touch of her hand, where she has a daily acquaintance with every corner, coming to where she feels her to be absolutely free, a dictator. She feels utmost comfort coming to the kitchen, she is quite fond of this kitchen.

“One needs a watchman to protect this cruel lifestyle. And in my life my furious mentality has taken the responsibility of that watchman. I get scared to soak up this mentality, lest I become weak.”

You are able to understand your problem quite properly, which doesn't happen in all cases. But in spite of understanding there is nothing you can do.

Actually in our social structure what happens in case of the women – it's true that a dream, to grow bigger and self dependent in the future, does build up among the intelligent and meritorious ones at youth, but emotions have got a power which get trapped in the traditional picture of romance in women.

The stream of which is not conventional, is so faint that, the heavy emotional current of the tender age doesn't get the width to flow. As a result eventually they enter the palace only as the wife of an educated and respectable male passing beneath the ornaments, flowers and shehnai. But the broken down bricks and plastered-off walls inside and behind the palace get discovered little by little.

Any life devoid of the beauty and sweetness of self-dependance and independence becomes pale. It becomes clear one day that she has lost the path in the middle of her way all alone, after all the extravagance of the initial conjugal life falls off.

In that emptiness some sink in depression, some get attacked by anxiety, and others in order to push aside the restlessness of this nullity into secrecy give huge offers to trifle matters and get busy with them. They get obsessed with washing their hands, considering trivial dirt to be dangerous.

In your case almost from the very beginning of the conjugal life, the inner emotions not getting an outlet have run for other social recognitions – a good housewife, a patient dutiful woman and an affectionate mother.

She has kept on running for the recognition of her sense of responsibility, while on the run it has gradually turned to a habit, the speed of running has overcast the inner loneliness and while on the run the very known paths of natural emotions have dissolved in the process of gradually going further and further towards the horizon.

So the restlessness of the vacuum that stands before you at the end of a work, pressurizes you to move to the next work. That's why the day ends but your work doesn't. In this way eventually one has to become the highest point of work and duty.

Actually the women who get a little opportunity to become self-dependant, in those cases too the picture of their becoming self-dependant, is socially so lack-lustre and dim that the picture of romance breaks down like a toy-house inside the women.

The momentary and poignant illusion of shehnai, flowers and lights robs away everything.

Even inside many meritorious female students the current of the dream of a good marriage rather than becoming self-established flows on secretly. In your case, you have fastened your entity with the poignance of the 'angry and responsible' picture in order to overcome the vacuum inside.

"So in the worldly affairs my present identity is of a heartless, indifferent, impatient and unforgiving one. I am informed that anger only is my utter ruin. I had to bear the pain and labour of so many years in order to make this furious armour.

I have locked an ocean of tears behind this furious armour. In the process of being a supplier of everybody's happiness, for a little praise, I have become a robot. In the beginning due to their deprivation and negligence I used to think that perhaps I myself was at wrong. I used to try to become even better – I have become tired in the process."

"I deprived both mentally and physically, used to secretly become restless with desire and thirst. In order to overcome this restlessness I used to sink myself in the service of everybody in the family from dawn to dusk. These people used to accomplish their motives using that opportunity. After bearing much pain now I am becoming a little habituated to stay lonely.

In so many days I have wanted to stay alongwith everybody else. I guard this habit with the exhibition of an angry expression. I fear to shed this armour. If everybody comes to know that, it is an armour they will harass me again. But I cannot keep it up in this way anymore. I am tossing about inside this armour, again at times I am becoming peculiarly indifferent. Only yesterday I was thinking of telling the history of my whole life to you, that would take so many hours I don't know!

And this morning while coming to you I was thinking, whether I would come at all, what difference informing all these to you would make!"

Through the opening of the curtains unremitting plying of the buses and taxis on the roads of Kolkata was being visible. I could realize that so many unknown moving misfortunes like Nandita were getting over before my eyes. As if quiet and non-complaining from outside and inwardly a moving fireplace.

I was discussing with Nandita what could be the genuine ways of getting salvation from this situation! Her husband is unreasonable, blunt, authoritative and hot-tempered. The oppressive mother-in-law today is bed-ridden after troubling Nandita her entire life.

Nandita herself has to spruce up her excreta. She literally performs the last rites of Nandita's forefathers while lying on the bed. The brother-in-law is also hot-tempered like her husband. She has to wait for him with rice till late at night. The women at home fear both of these two male members.

At the beginning of those days when her dreams had started to break one by one, self-respecting Nandita began to protest. But in the absence of any arrangement of becoming self-dependant, it becomes important how the society is taking that. The picture that was built up socially – quarrelling with mother-in-law, not wishing to look into the problems of brother-in-law and a tyrannical wife who selfishly desires to become separate with her husband.

Eventually Nandita, in fear of social transgression, slowly wound up to live on clutching only the recognition of a good human being, after having lost all. Gradually she became the highest point of discipline and duty. Today standing at the twilight of life the recognition for duties seems to be meaningless.

Because the more a human being approaches towards his concluding days, the more he wants to become the truth which is the only eternal thing, moving out from the outward extravagance and artificial things.

Nandita's only son is now in a service after becoming adult. He loves a girl. He would possibly marry a few days later. It's not that Nandita's son doesn't understand her. She has got to live surrounding only her son and his wife, which means setting out from one parasitic condition to other.

So I suggested her – the endeavour of finding himself remains active, though mildly, in a person's life, till the last day. Be it the conclusion of your life, if you can find yourself meaningfully in spite of reaching here, it could wipe out even the stigma of the entire life.

At a point of time you knew music, of course it is really difficult to do something afresh at this stage. You used to paint not bad. At a mature age you wouldn't find it difficult to expand the horizon of painting. You can think of life afresh in this area. Your desires had a poignance.

But like many women your poignant demands have got scattered in the air, becoming the smoke of only complaints, egotism and lamentation. In cold head and with a serene mind progressing steadily along a genuine path, making oneself as successful as possible – as if these are not the word of the women.

Whatever has happened in so many days has happened due to the social structure, where egotism and complaints towards persons would not fructify much. Take time out of your chores. If your husband doesn't help your son is there.

This little help from him is your right. Do resist the wrongs and injustice. Instead of running behind the enigma of a responsible image, start running for the truth. The thing called image is fragile, dependant on other's perception and viewpoint. The truth which is eternal will never deceive you.

There were many more pages to read in Nandita's diary. So I asked her to leave the diary, I would read it timely. It would be discussed elaborately on the next day. Nandita left. Once she mingled with the plying buses, taxis and moving crowd of the people outside, she never came back again. Not even to take the diary.

The diary which she once decorated carefully with paintings, which when she came into the room held tightly to her bosom, perhaps later on she had felt that taking it back wouldn't make much difference!

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Declaration

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the family members stronger and to make them collectively or individually more active. This therapy can be done to any extent and in any problem of the family.

Cognitive therapy: A lot of things are meant by cognitive psychotherapy. As for example starting from the diagnosis, directing the patient in different environment and situation to making him thoroughly realize his own perspective and so on are there in this method. Alongwith that the therapist's own merit and ability are considered to be extremely important in this therapy. The basis of cognitive therapy is a certain type of neurosis theory where the ideas of the former are made from the conception of moulding the logical process of our socio-psychology, the psychoanalytical theory and information-processing system etc.. Different types of clinical experiments are also done through this method.

Interpersonal psychotherapy: This type of psychotherapy is considered to be appropriate mainly for the patients of depression of any age. Here the patient's current problem and socio-familial perspective are given much more importance. Through this it is observed how the patient's present signs and symptoms have been made and what the relation between this social disorder and his depression is. It has been noticed that, during this time the individual's personality remains in such a disorderly condition that it becomes impossible to evaluate anything about the patient's disease from it.

Brief psychotherapy: In this method an individual's thought process and wishes are reconstructed and his behaviour is intended to change through a conversation between the patient and the therapist. It is evident from the name that the difference between this one and the other methods is that, here it is tried to fulfill the aim of the therapy in as little time as possible.

Erikson method: Through this module by psychiatrist Erikson the individual's 'ego' is intended to be strengthened even more. The aim remains in that the individual can even more excellently cope up with his familial and social environment. It is specially looked into that the person can fantastically recover the crisis of personality which occurs in the formative years. There is no specific aim in this method; but according to Erikson's opinion, the therapist would try to integrally calculate the patient with his method of treatment following whatever new information whenever obtained from the latter. As a result the therapist's experience and conception would also grow further.

In addition to this, the other methods which are notable as psychotherapy include – paradoxical and strategic therapy, client centered therapy, transactional psychotherapy, guided imagery therapy, feminist psychotherapy, computer-aided psychotherapy, transpersonal psychotherapy etc.. But there is nothing to say separately about these therapies. On finding out it would be known that they have been formed with a slight alternation in those previous therapies.

However, psychotherapy was formally started around the year 1920 in Western countries by Psychoanalytical Society. Here too Dr. Girindra Sekhar Bose started this work around 1930 in his personal practice at R.G.Kar Medical College and later on at Lumbini (the name definitely remind us of Lord Buddha!) Park Hospital, Kolkata.

At that time there were no medicines for treating mental ailments as such. The specialists of Psychoanalytical Society throughout the globe were against applying medicines for treating mental diseases due to two reasons. Firstly, they used to say that the signs and symptoms of the patient could alter or increase if medicines are applied and in that case they would face

become abnormal.

Under this verdict if one's condition becomes abnormal, those who apply Pavlovian method of treatment investigate about the following matters of the patient. E.g. - 1. exactly which particular incident has caused this abnormal behaviour of the patient i.e. what is the speciality of that incident or how is the evident relation of the incident with the patient?

2. What is the condition of the patient's general health?

3. What is the patient's age (at a younger age he will have greater adaptability or flexibility)?

4. What kind of pre-morbid experiences he has?

5. How does he solve the various problems of his life etc..

It has been noticed that, in case of psychiatric diseases especially those mental diseases for which the effect of the environment is responsible to a large extent, an individual can not prevent the making of his abnormal condition only with the brain type or the ability of the brain.

Of course where the individual's organic vulnerability is pre-dominant, especially in case of major psychiatric ailments, it becomes impossible by all means to prevent the disease. The patient may have various plans for adaptation to recover from the disease, later on which don't become active anymore or become a failure.

According to Pavlov's opinion, the hypnotic phase is an intermediate condition of the awake and asleep state of the normal brain. In the perspective of the excitation-inhibition process of the brain, various states of this hypnotic phase can be noticed. In the general awakened condition of the brain a strong stimulus creates a strong reaction and a weak stimulus builds a weak reaction.

But the different sub-phases of the brain's hypnotic phase which we get to observe, the stimulus of same magnitude creates more than one or altered reactions in that. As for example the first sub-phase is the phase of equalization. Here it can be noticed that a stimulus, be it strong or weak, creates almost the same reaction in the brain. The second phase is the phase of sleep or paradoxical phase. Here it can be observed that a strong stimulus creates less reaction and comparatively weaker stimulus makes strong reaction. The third sub-phase is ultraparadoxical phase.

In this sub-phase we see that the same stimuli which weaken the brain, provide stimulation here, otherwise under normal condition no stimulus works here. We have to remember that all of the above things occur in a normal brain. On the other hand the equilibrium of this excitation-inhibition process is disturbed in an abnormal brain. As a result the three principle components of the brain viz. equilibrium, force, mobility etc. turn to utmost chaos.

Distinction of Psychotherapy

Before administering psychotherapy Dhirendranath had to think about and take decision over issues of the following type: 1. this patient needs psychotherapy and wonderful result could be obtained on administering psychotherapy on him,

2. all is well if psychotherapy is done on him; but that is not being possible due to various reasons,

3. he can be done either with psychotherapy or with counselling,

4. no particular result could be obtained by giving psychotherapy on him,

5. psychotherapy on this one might be done; but with all the labour whether any fruitition would occur at all – one can not be certain in this matter etc..

But one should remember that in general if the patient wished, he used to consider that