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SOME KNOWLEDGE OF THE STUDY OF SOMATIC SCIENCE

BY: Qian Xuesen

Today, the board of the Association of Somatic Sciences is convening its fourth meeting. At the same time, our journal, the "Chinese Journal of Somatic Science" has also been published. It may be said that our Chinese Association of Somatic Sciences has progressed to a new operational stage. For our work to enter a new stage, our ideological knowledge must also follow. We must not continue to remain at that stage of hard combat with the group of opponents where we have been for the past several years. We must now fight another hard battle to establish scientific research the somatic sciences. Comrade Chen Xin published an article on this major topic in the initial issue of "Chinese Journal of Somatic Science" entitled "The Concept and Methodology of the Human Body as an Open, Complex Giant System¹." Here, I will use this concept that the human body is an open, complex giant system to talk about my knowledge of somatic sciences and the operations of the Association of Somatic Sciences. I hope that you comrades will point out any errors I may make.

I. WHAT IS SOMATIC SCIENCE?

In 1983, I had an article in "Nature Magazine" entitled "Concerning the Science of Thought"². In this article, I mentioned the outlines of somatic sciences, but I did not yet mention the problem of human paranormal abilities. At that time, my primary understanding was that there was a history of several thousands of years in medicine and that there was a great deal of practical experience there. Modern physiology and medicine also had a history of 200 years. This is important. At that time, I stressed the effect of human consciousness. This is the difference between man and animals. Therefore, the shock waves of paranormal abilities have caused us to greatly open up our eyes. At the same time, a great "wave of popularity for QIGONG" has risen around us, reminding people of China's ancient medicine of several thousand years-Chinese medicine. This allows us to recognize that the concepts we have studied in the past concerning man are not sufficient for our needs, and we have finally come to recognize that the human body is an open, complex giant system. Concerning this question, Comrade Chen Xin also stated very clearly in the first issue of "Chinese Journal of Somatic Science" in an article entitled "Somatic Sciences - The Way to Major Breakthroughs in

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Modern Science"³. When I think about it, the reason we were able to come up with this concept was with the assistance of the discover of the phenomenon of human paranormal abilities. For my personal understanding, I must thank the origins provided by human paranormal abilities. Therefore, those comrades who are performing work in human paranormal abilities have made major contributions and performed meritorious services which will be called a milestone in the history books of man's understanding of the world.

I pointed out in that article in 1983 that somatic science was a major part of the body of modern science and technology. It parallels the natural sciences, social sciences, the mathematical sciences, system sciences, thought sciences, military sciences, behavioral sciences, geological sciences and the artistic theories. Each major part has three levels, the theoretical sciences, the technical sciences and the practical technologies.

Naturally, there are several special points in the artistic theories, because the practice of artistic theory is artistic creation and is not science. When somatic science is added to the major fields above, there are a total of ten, which compose the body of modern science and technology. Each part has its own philosophical outline. The philosophical outline of the natural sciences is the natural dialectics. The philosophical outline of social sciences is the historical materialism. The philosophical outline of the artistic theories is aesthetics. The philosophical outline of the somatic sciences is the view of man and nature. Finally, they are all gathered together in the philosophy of Marxism, while Marxism uses the philosophical outline of each part to guide the advances in science and technology⁴. In the somatic sciences, the philosophy of Marxism guides research in the somatic sciences through the view of man and nature. The achievements of somatic sciences add to the philosophy of Marxism through the view of man and nature.

Although I already had the concept of somatic sciences in 1983, I had a very shallow understanding toward the overall further understanding of the human body at that time. I only knew that it was very complex. As to what extent, I was not clear. Beginning in 1988, we gradually discovered in our system discussion classes the concept that as a system, the human body is not a normal system. First of all, it is an open system, which is to say that this system has exchanges with the outside world. For example, through breathing, eating and drinking and elimination of wastes, it carries out a material exchange. Through sight, hearing, taste, smell and touch it conducts an informational exchange. In addition, the human body is composed of billions and billions of molecules. Therefore, it is not a small system nor is it a large system, but it is a giant system even larger than a large system. Also, all the component parts of this giant system are different. The interaction between these components is also very complex. Therefore, it is a complex giant system. Some giant systems such as the air in this auditorium are also composed of billions

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and billions of molecules, so it is a giant system. However, there are not very many types of molecules, and the interaction among the molecules is not complex, so it is a simple giant system. For open simple giant systems, a theory can be constructed to process them such as the theory of I. Prigogine and H. Haken with a great deal of success. This won them the Nobel Prize. However, using their theories to process open complex systems such as the human body or society is unsuccessful. This was the fallacy of the "brains" of the social sciences in advocating the injection into China of foreign economic theory a short time ago.

Therefore, to study an open, complex giant system such as the human body, it is necessary to take another route. It has been the past few years that we have formed a type of method in our systems sciences discussion class which we called "the comprehensive integration method from the quantitative to the qualitative"⁵. Specifically, it is combining bit by bit, everyone's qualitative and incomplete opinions to form a numerical model, entering boundary restrictions and performing qualitative calculations, and finally reaching a conclusion. Actually, this is also the modernized processing method of what in the past we called "democratic centralism". However, in the past when using this principle, errors were committed, and when error was added on top of error, it was not possible to collect the proper opinions. Why was this the case? Because there was no scientific method to accomplish the summing up. During sessions of the National People's Congress or the Chinese People's Political Consultative Congress the delegates would put forward a number of opinions and there were several programs, but finally what happened was there was actually no good method of summing up these ideas or platforms, so how could a scientific decision be reached? Therefore, all credit for the formation of the concept of an open, complex giant system and the comprehensive integration method from the quantitative to the qualitative should go to the Chinese people. From this basis, man's ability to understand his world has risen to a new stage.

Since man is an open, complex giant system, in our study of somatic science, we must use "the comprehensive integration method from the quantitative to the qualitative". This is a basic view point and methodology. This new concept we have come up with, we should say here at today's meeting, had its beginnings in the theories of Chinese medicine. Therefore, we have already pointed out that Chinese medicine, QIGONG, and human paranormal abilities all taken together form somatic sciences. Now I would like to say that our theories have also risen, risen to this view that the human body is an open, complex giant system. We should hold this view to reshape all old knowledge of the human body. I believe that this is the task of the Chinese Association of Somatic Science. Naturally, this task is a monumental task and will take a great deal of effort. I am afraid it will take until the next century. However, we must have confidence. In the past thousands of years, mankind has constantly searched for, and today has finally found, the proper avenue, and we must go down that road.

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II. SOMATIC SCIENCE RESEARCH MUST PAY ATTENTION TO CLINICAL MEDICINE

Since the human body is an open, complex giant system, the study of the human body must not be simplified. We must not grasp one single point and ignore the rest. Therefore, we must search for truth through facts and must pay special serious attention to obtaining knowledge from experience. As for somatic science, the basis for practical knowledge is medicine. Medicine is the most abundant source for practical knowledge for somatic science. Because man becomes ill, and when he becomes ill he is treated. In order to treat ailments, it is necessary to clarify the cause of the disease and to study just what the human body is. This is especially true of clinical medicine. It has direct contact with patients. A patient is a real and complex entity. There is no way to simplify the patient. I have had contact with a number of persons who conduct medical research. They often simplify man, and often look down on people practicing clinical medicine, feeling that they are not very "scientific". However, I feel that the "scientific" they are talking about is often a component of mechanical materialism. We in the somatic sciences must never commit the errors of mechanical materialism. We must pay serious attention to the experiences of clinical medicine, including Chinese medicine. Chinese medicine has a history of thousands of years and includes a great number of things. Through practical experience, Chinese medicine has a great deal of perceptual knowledge. They also worked hard to summarize this and to form the precious theories of Chinese medicine. Naturally, there are also minority nationality medicines such as Tibetan medicine and Mongol medicine, so we call it traditional medicine. Actually, this problem is also being taken seriously in foreign countries. In the british magazine "The New Scientist"^e, it was stated that there are two medicines in North Africa, one is called Frankincense and one is called Myrrh which are very famous and which they are studying. Later we also saw a news item that stated that chimpanzees in Africa eat two types of leaves every morning, one has the Latin name of Aspilia and the other is called Lippia Plicata. The item stated that these two types of tree leaves are healthy and give an appetite. That is to say, chimpanzees also eat herbs. Therefore, Chinese medicine and the nationality medicines all over the world are very fruitful storehouses, and their histories are probably longer than several thousand years. If we tack on the ancestors of man, it is probably a history of several hundred million years.

Another major aspect is Western medicine. Another is the combination of Chinese and Western medicine. In this years fifth issue of "People's Pictorial"^z, I saw some successes of the combining of Chinese and Western medicine. However, I could not find these in medical books. This is also something very valuable in the practical experience of medicine, and we must not ignore these things.

The fifth aspect is psychological treatment. There has been a fair amount of growth here in the past several years. Professor Wu Jieping, vice chairman of the China Science Commission told me that psychological

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treatment is very important, and that when he was seeing patients, he used psychology. Therefore, everyone should not feel that psychological treatment is not important. The treatment of patients by QIGONG masters also has a psychological effect.

The sixth aspect is QIGONG. QIGONG is very effecting in treating certain ailments of certain people. However, the pattern has not yet been fully identified. We cannot, however, ignore QIGONG because of this.

The seventh aspect is paranormal abilities. Many comrades here today all conduct research in paranormal abilities, so I need not speak more of the significance of paranormal abilities within somatic science.

Are there still more aspects? As our understanding grows, there may well be more. These seven aspects I have mentioned are mentioned in the general order in which they have received serious attention after their appearance. Naturally, the comrades here today probably have their own order, and I will not argue this. However, these seven aspects are all directly used to process man, and they cannot be simplified for practical experience of the human body and our research into the somatic sciences. We must consider man as an open, complex giant system, and no two people are the same. Therefore, clinical medicine is the most abundant and complete source of information for research into somatic science and must be given our full attention. In our Chinese Association of Somatic Science there is a Clinical Medicine Philosophy Committee. Their research plays a major role in the development of somatic science. Furthermore, to what I have said in this section, we should not restrict ourselves to Chinese medicine, but should also include all seven aspects of clinical medicine. For example, I have already suggested using the theories of Chinese medicine to analyze large numbers of cases of Western medicine.

From the viewpoint of somatic science, there can be even greater developments in clinical medicine. In the past when talking about medicine, it was divided into the first medicine which was the medicine of the treatment of disease, and the second medicine which was the medicine of health maintenance and disease prevention. As for the concept of the third medicine, I have several different ideas. The English for the third medicine is rehabilitation medicine. Our translation as "recovery medicine" is not appropriate. For a patient to recover, that belongs to the first medicine, while third medicine actually refers to the restoration of functions of the disabled. It is recovery through mechanical methods. Actually, there are a great many such instruments. Nearsightedness cannot be cured, so glasses are worn. If one is hard of hearing, he wears a hearing aid. If the heart function is poor, a pace maker is implanted. As science and technology advances, there are more and more of this sort of thing. There is an article called "Conceptual Technology"⁸ in which it states that "We have been wearing glasses for several generations. Then there were contact lenses. Now we perform eye surgery to help ourselves see better. We can also remove aged bones and replace it with stainless steel and plastics are being used to replace

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skin. We are slowly and actually using more and more materials in the human body. We are becoming controlled machines. We are using technology externally and internally to perform certain mechanisms of life." On the second page of the 28 May, 1990 issue of "Guangming Ribao" there was a news item on a "new model multiple function rehabilitation bed being placed into use". This discussed using a new multiple function electronic bed to help people perform a number of lost functions. Somatic science research can help us manufacture even more mechanical electronic devices. These devices can help people recover some functions which medical treatment methods cannot recover. Therefore, I believe that the third medicine cannot be called recovery medicine, but should be called "reconstructive medicine", which is the reconstruction of organs of the human body.

From the viewpoint of somatic science, I feel that there should be a fourth medicine, which is the stimulation of functions which most people do not have, such as paranormal abilities. I call this "Creation Medicine". We must create ourselves, create a man superior to that created by "god". Also, this is a conscious dynamic creation. This is one major aspect of our somatic science. It also includes three other aspects. The first is to use the methods of somatic science to enhance the accomplishments in athletics. Comrade Xia Shuangquan of the Wuhan Physical Education College studied and tested using QIGONG methods to improve athletic achievements. The second aspect is to improve mans intelligence. Comrade Wu Yitong of Anwei has conducted some experiments in this area, using QIGONG methods. However, it was an error for him to list using QIGONG to correct nearsightedness in this category, as that is a first medicine problem. The third aspect is to induce paranormal abilities, bringing into play abilities which are dormant in man or which man does not have. I believe that somatic science should study the fourth medicine, which are problems of creative medicine.

Somatic science should turn toward medicine, and the clinical medicine includes the four medicines, which are the first medicine, the second medicine, the third medicine and the fourth medicine. Furthermore, the four medicines all must use Chinese medicine, Western medicine, combined Chinese and Western medicine, folk medicine, psychological treatment, QIGONG, and paranormal abilities. We naturally are also unable to state that paranormal abilities only belongs within the fourth medicine. This concept must be clarified.]

In Shanghai there is a doctor called Sun Qiyuan. He studies leukaemia. He advocates that it is wrong to separate medicine and pharmacology^o. I feel that this is reasonable. Some people do not go to a doctor when they are ill, but buy medicine according to the advertisements for drugs which could cause problems. This is because even though they have the same ailment, no two people are alike, and no matter what a persons condition, or as we say what their functional state might be, it is not right to just take any medicine. The current state of confusion in the medical treatment enterprises is a cause for concern.

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We who work in somatic science should also note that there are very many problems which clinical medicine has not solved. Not long ago I saw Doctor Kuang Peigen of Hospital Number 301. She talked to me about the problem of pain. She said that this problem is very complex, and that we did not understand it. There is a World Pain Association, and there are a large number of people who have joined it. Some are medical personnel, some are psychologists and some are sociologists. Because the causes of pain are very complex, much pain cannot be cured and nothing can be done about it. Therefore, our knowledge of the human body, especially our knowledge of the nervous system is very lacking.

III. THE COMPLEXITY OF THE PROBLEM OF HUMAN CONSCIOUSNESS

In 1983, In my article "About Thought Science", I mentioned this problem. Now I believe that we who are doing research in somatic science should also pay attention to this problem. Because the human body is an open, complex giant system, it is necessary to give serious consideration to the feedback effects of the human consciousness to the other parts of the body. This is psychology, a basic branch of science in somatic sciences. When they studied the human mind in ancient times, they committed mistakes of idealism. Later, when psychology was established, it came up against mechanical materialism. A typical example is behavioral psychology, which is the so-called "black box theory". At the present time, there are a great number of different types of psychological research in foreign country, and none of these can convince the others. However, I believe some of the questions can be clarified. For example, research in brain science can resolve such problems as sensation, which is the detection of external information, and how it is transmitted to the brain after receiving it. This is biological psychology. However, the next higher level of sensation is known in psychology as perception. This is very complicated and cannot be clarified. Because perception involves even more complex questions such as how does the brain process the received information. There are people in foreign countries who have done research in ovine perception. They say if a man is standing, the sheep is afraid. If the man is lying down, the sheep is not afraid. This is one interesting phenomenon. Recently I saw a book review¹⁰ which reviewed a book called "Synesthesia" by Richard E. Cytowic. From the book review, I felt that it should not have been called Synesthesia, but should have been called "Feelings". Feelings are something even higher on the scale than perception. For example, someone hears music, first of all is the sensation from the ear to the hearing nerves, and then the controlling portion of the brain processes the sensation information which gives rise to perception. Perception is then combined with the culture of the person listening to the music and finally the feelings of listening to the music are reached. Similar processes apply to touring scenic areas, reading poetry or watching a performance. However, I see that is very difficult

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for psychology to study this question, because it currently can still not be divorced from the processing method of the reduction theory. There are many books like this. This is a problem that psychology is presently faced with. It is even more important for we who are doing research in somatic science to pay attention to this problem, and we must jump out of the framework of psychology and use the methods of processing open, complex giant systems, and we must use the comprehensive integration method from qualitative to quantitative to gradually move up from biological psychology to the spiritual level which R. Sperry talks about. Once we have determined how human sensation rises to the high spiritual activities, and then, how does this high level activity feed back and affect other portions of the human body. This is actually to establish a science of spirituality. If those working in somatic science do not study this question, a number of questions such as QIGONG and human paranormal abilities may not be able to be solved. I spoke of this problem before, and today while summarizing this concept of "sensation", I would like to iterate the role of consciousness and mind in somatic science.

IV. LEADING IDEOLOGY AND METHODOLOGY IN STUDYING SOMATIC SCIENCES

Research in somatic science must use the philosophy of Marxism, which is dialectical materialism, as its guide. As for somatic science, it is the view of man and nature which connects it to the philosophy of Marxism. The three levels of the view of man and nature are the microscopic view, the macroscopic view and the universal view. Chinese medicine has made large contributions to the macroscopic view aspects. Here, I would like to emphasize that we must not commit errors of idealism and mechanical materialism. In some fields of natural sciences and technology it is not very easy to commit errors of idealism. However, due to the influences of Western sciences, it is very easy to commit errors of mechanical materialism. As we say in the vernacular, this is stubborn as a mule, and it takes a simplistic view of problems. Research into somatic science not only guard against idealism, it must also guard against mechanical materialism. In the past, the persons who criticized research into paranormal abilities and opposed us included those who said we were guilty of idealism and mechanical materialism. However, if we maintain the philosophy of Marxism, and maintain dialectical materialism, if anyone calls us idealistic, then they must themselves be guilty of mechanical materialism. Therefore, I once more stress that those working in somatic sciences must do a good job in learning the philosophy of Marxism. Otherwise, we not only will not be able to do a good job in our research in somatic science, but will also make mistakes. The central leading comrades have repeatedly stressed that leading cadre must do a good job in learning the philosophy of Marxism. Why have they done that? Because leading comrades must handle social problems, and these are an open, complex giant system. It shares this point in common with somatic science. Therefore, those working in somatic science must do a good job in learning the philosophy of Marxism.

Recently I saw the book "Preliminary Explorations into the View of

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Man and Nature" edited by Comrade Ye Jun of Sichuan. I believe that the book contains a number of things that appear to be true and are yet untrue. Therefore, it will not be an easy task to construct this bridge of the view of man and nature between somatic science and the philosophy of Marxism.

Here I would like to say that the problems faced by the Chinese Communist Party in leading the new democratic revolution and in socialist construction are very complex, but they have achieved great victories and accomplishments. The summarization of this experience and the refining of a high degree of philosophy lies in the thought of Mao Zedong. The thought of Mao Zedong presents the theory of scope of dialectical materialism for interrelated complex problems¹¹. It is a sharp weapon for research in somatic sciences. We must study and put to use this philosophical thought of Mao Zedong.

With a leading ideology, the next thing is the problem of methodology. The method for handling this open, complex giant system which is the human body is the comprehensive integrated method from qualitative to quantitative. It is not that old method of reduction theory. The reduction theory dissects things, tests them, and then puts them back together. This is the Baconian method of 300 years ago. For the past several hundred years people have always followed this "scientific method" when conducting research work. However, this set of methods cannot be used to solve open, complex giant systems. Because this system is extremely complex, how is it to be dissected? And the small system dissected are not the original systems and there is no way to summarize the bit by bit research of the small systems. I just mentioned that the views of persons conducting medical research are not the same as those of clinical doctors, and the patients faced every day by clinical doctors are each and every on an entire person, an entire entity. Facing this open, complex giant system of the human body, we must conduct comprehensive research, and must not tarry at the level of doing bit by bit research. We must summarize research of the various portions. There are numerous papers published in the medical field every year, but they do not solve problems. Why? Because that research is all bit by bit, partial, and has not been all summarized. Somatic science research must summarize all information. That requires the use of the comprehensive integration method of from qualitative to quantitative.

We stated in the first section that this method was the creation of the Chinese people. The foreigners do not have it yet. Naturally, they also face complex problems in practice, and know that the old Baconian methods do not work, so in recent years there has appeared in foreign countries a fad of so called complexity research. However, after discussing it back and forth, no feasible methods came out of it which could solve problems. So it is we who are marching in the forefront. This is something that we Chinese workers in somatic science can celebrate.

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V. OUR CURRENT DIFFICULTIES AND CHALLENGES

On the other hand, in practical use of the research method described above, because it involves the social situation of China, there are a number of difficulties that have yet to be overcome. There is a great deal of information to be summarized. It cannot be done by hand. Therefore, we must use the methods of modern information technology and use modern information technology as tools to assist human thought in order to complete the comprehensive integration from the qualitative to the quantitative. Those doing somatic science research must take part in this work and must have a firm grasp of this method. As we are known, Mei Lei of the Space Medicine Engineering Lab has done a great deal of work with computers and Lu Zhu and Lu Huo of the Nanjing Military Region Main Hospital have done research in dimensional EEG. Is it not possible to summarize this work on EEG? Recently I saw research into fingerprints by Shao Ziyuan of the Henan Physical Science Research Academy¹³ which stated that finger prints represent a person's genetic information, and by looking at fingerprints it is possible to select people with athletic abilities. I think that this is simplistic. Since finger prints represent heredity, and it cannot be said that heredity is all determining, environmental influences also play a great role. I fear that human functional states require several hundred parameters to describe them and must not be simplified. Recently I saw an article in "Nature Magazine" by Zhang Shaoguang on his theory concerning the networks of the human body¹⁴. He stated that the material basis for networks were a type of liquid crystals which organized movement between certain gaps and channels in the human body. This is also too simplistic. Also, it is only one idea and no thorough research has been done. Heilongjiang Science and Technology Press has come out with a book on modernized research in Chinese medicine by Zhang Shishun in which he quotes me as saying that the human body is a system. However, his system is too simple. He also uses that pansystem theory of Wu Xuemou of Wuhan. Zeng Weijun of the Nanjing Municipal Jiangpu County Hospital has written a book on research in Chinese medicine by many scientific disciplines which broadens the horizons of the theories of Chinese medicine. He has brought in everything he could use. This is an excellent beginning, but it is only a beginning. Because the human body is too complicated, we must not now simplify it.

In the past, Western medicine frequently made the mistake of simplification, treating only the seat of the disease. Recently in the May 1990 issue of "Scientific American" I saw an article written by Steven A. Rosenberg¹⁵. He told how to enhance the human immune capabilities to allow the immune system to defeat cancer. This is a step in the right direction. The article stated that in 1968 when he was a resident of the Boston Hospital he had a patient with stomach pains. An examination showed he was suffering from gall stones. He used surgery to remove the stones. However, checking the patient's medical records he discovered that 12 years earlier the patient had stomach cancer and when it was operated on, it was discovered that it had spread to the intestines and was inoperable. The doctor believed that he had at the most three months to

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live. However, strangely enough, after three months, he grew stronger and stronger, and 12 years later while undergoing surgery for gall stones, it was discovered that the cancer was completely gone. Rosenberg believes that it was the result of the immune system. This is one type of system view point, and is not treating the head if the head hurts and treating the foot if the foot hurts.

I also thought of Chinese medicine treatments. They often use a type of tonic. What is a tonic? In general it is what Western medicine calls strengthening the immune abilities. However, what Chinese medicine calls a tonic is more than the Western medicine enhancement of immune abilities. Western medicine now also uses some tonic medicines, such as Lysium Chinese and astragalus. However, Western medicine does not know that the time of year is important for tonics. Some tonics can only be taken in the Winter and cannot be taken in the Summer. Chinese medicine is more clear on this.

These examples all make it clear that we must use the view the problems of the human body from the viewpoint of an open, complex giant system. We must use the comprehensive integration method from the qualitative to the quantitative. We must use the philosophy of Marxism and the view of man and nature to guide our research, and must not only grasp a single point without the rest. If there are to be accomplishments in somatic science research, mechanical materialism must be overcome. However, at the present time, dispersion is a major problem, and dispersion is a major enemy of somatic science research. Within the Association of Somatic Science, there are quite a number of well known old experts. They have already retired from the front line of scientific research and do not wish to do that bit by bit work any more. If the bit by bit research is not all summarized, how can we progress? This is extremely important for somatic science research.

There have been accomplishments in Chinese somatic science research and there is great hope for the future. This is not only because we have Marxism - Leninism and the thought of Mao Zedong and the philosophy of Marxism guiding our work, but Chinese Somatic Science Research is also guided by the Party. At the top there is a Party and State four man somatic science leadership team, and below the leadership team there is a group of experts. Because somatic science research requires the use of the comprehensive integration method from the qualitative to the quantitative which requires summarization, I would like to stress one more time that summarization is the most important task for the expert team. The board of directors of the Association of Somatic Science should also conduct summarization work. It is also necessary to do the bit by bit operations, but summarization is where the future of somatic science lies. We must turn around the trend toward scattered research! In the past in the atomic and nuclear bomb, we relied on a unified leadership, relied on a high degree of political awareness, high degree of organizational discipline, and high degree of science. This type of organized integrated operations is what somatic science needs. I hope that through this type

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of work we can change how others view our Association of Somatic Science. They feel we are the "Chinese Association of Paranormal Abilities" only working with performances or doing bit by bit testing or the "China Association of QIGONG". We must enter a new age of Chinese Somatic Science. The scope of our work must not only include the first medicine and the second medicine, but must also be broadened to the third medicine and we must create the fourth medicine. Therefore, somatic science is intimately related to socialist modernization construction in China.

Are the points of my understanding as I related them above correct? I ask the board to discuss them. The members of the board are the leaders of our association. Our Chinese Association of Somatic Sciences must act as determined by the board.

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THE WORKING TASK OF THE CHINESE SOCIETY OF SOMATIC SCIENCE

BY: Zhang Zhenhuan

Today, Comrade Qian Xuesen described in a detailed and systematic manner the problems concerning the various aspects of somatic science. In the past, Comrade Qian Xuesen has spoken with insight on somatic science, playing a major role in promoting our work. Today, Comrade Qian Xuesen has come to take part in our meeting, and we are very happy to see his high spirits and hear his resonant voice.

Today we also celebrate the founding of the "Chinese Journal of Somatic Science". This is a publication jointly managed by the China Society of Somatic Science and Shanghai's Jiaotong University. This cooperation helps to ensure the quality of the magazine. We hope that everyone will take this cooperation seriously and will treasure it.

Having heard Comrade Qian Xuesen's report, I feel that there is still a very great distance from what we are doing in our work and the requirements Mister Qian spoke of. Mister Qian's speech today on somatic science was very thorough and systematic. He pointed out that somatic science is the combination of many scientific disciplines. To actually carry it out, the contents are very abstruse and very difficult.

Our work is guided by the philosophy of Marxism. How is it led? This should be very specific. How can we, through our work, cause even more people to understand us and to attract even more scientists to take part in our work? As for the question of mechanisms, this has not yet been clarified. We should resolutely continue and not waver. We should continue to open up new areas in our work.

As for the debate over somatic science, it has not yet stopped. A doctor of chemistry in Hong Kong once said, "even if my own son could read characters using his ears, I would still not believe it. However, there are comrades of this sort around us, who just because their own child can read characters with their ears, so do they believe in it. The year before last there were several Americans, including a magician who came to China to oppose human paranormal abilities and QIGONG. They wanted to see, but we would not let them see. Why should we show them Chinese things. Later there was an investigative commission which came from the United States, and it published an article saying that there was still no proof of human paranormal abilities. What qualifications did they have to publish such a criticism (Comrade Qian Xuesen interjected: didn't the person who invited those Americans - the Editor-in-chief of the "Science and Technology Daily" - resign?)

We want to do a good job of combining somatic science with the study of Marxism. Concerning the question of consciousness and existence, the

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question of thought and the brain, and the problem of subjective and objective, we must do a good job in our study and research. As of now, there has still been no work dealing specifically with the problem of consciousness. This is a problem of doing a good job in research from the viewpoint of the philosophy of Marxism. We have discovered a new phenomenon, and we should outline it from the viewpoint of philosophy, and when it cannot be explained in terms of old concepts and old view points, we should create new things. Also, as for the human brain, we have done only very little superficial research. In order to further investigate such problems, can we train ourselves to generate certain functions? If we ourselves have these abilities, then we have a right to speak about the explanations of certain things. We have to work hard in these areas. In general, our work is still quite a ways from the systematic and strict requirements proposed by Mister Qian.

Below, I would like to talk about the problem of the organizational establishment of the society. At the present time there are people all over China submitting requests to join the Chinese Society of Somatic Science. To deal with this, we have adopted an active serious program in organizational development operations, and as of the end of March of 1990, our society had grown to 333 members. Of these 185, or 55.6 percent, held a position at the level of associate professor or associate researcher. This illustrates that the quality of our membership is relatively high. Our members are scattered from 27 provinces, Cities and Autonomous Regions. At the present time only Qinghai, Xizang and Hainan Island do not have members. The concentrations of members are in Beijing, Shanghai, Sichuan, Yunnan, Heilongjiang, Jiangsu, Shaanxi, and Hunan. There are already six group memberships, and the Jiangxi Province Somatic Science Society and the Guizhou Province Somatic Science Society have requested to become new group members.

It is worthy of note that in areas where provincial, municipal, or autonomous region first level somatic science societies (or research committees) have been established, under the leadership of the local science committees or science association, in order to make widespread contact with activist elements, this has spread to a number of local societies. For those who are top notch and who have made contributions toward the growth of somatic science, only when one of these submits an application is he accepted as a member of the Chinese Society of Somatic Science. This is the way it was handled in Yunnan and Guizhou. From what we have learned a few prestigious societies have used this tiered form growth model. Now, our Chinese Society of Somatic Science, with the support of the local societies in the various localities, has these layered conditions. In the work of organizational growth in the future, we should also learn from their experience and adopt a layered growth membership method.

In order to strictly ensure the quality of our membership, we are primarily adopting two methods. One is to travel the mass line, relying on the local societies for new membership growth. The second is to act in

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accordance with the charter of our society, thoroughly investigate and research applications and conduct review and approval in a serious manner.

Having tested the measures above through practice, I believe they are actually effective. After several years of stable growth, the vast majority of activists who are really conducting scientific research or organizational and liaison work in somatic science have already been absorbed into our society. New activists will continue to appear in the future, but not on a large scale. In the first half of 1990, the organizational work committee received a total of 30 applications to join the society. Except for two applications which did not meet qualifications, all were handled in the order received. For a fairly long time into the future, we will in general be able to ensure this type of growth rate. As for the problem of training, such as training doctors to see into patient's bodies, we have to pay more attention to this.

To sum this up, we should have strict and conscientious organizational work, to gradually form a corps of cadre which can fight a hard fight in the realm of somatic science. This is a reliable organizational guarantee towards our strategic objectives and toward achieving the various tasks which Comrade Qian Xuesen pointed out today in his report.

In the past several years, by relying on this corps or ours, we have achieved a certain degree of success in academic construction. In general, there are the following aspects:

The first, through strict, designed and targeted scientific experiments, we have demonstrated several objective phenomena of the human body under different functional states. This has provided a valuable clue towards establishing a singular science concerned with these phenomena.

Second, according to these facts which have already been established, some scientific research; personnel have already begun to conduct theoretical research such as Comrade Liu Yicheng's preliminary research into multistate physics. Many others have received much encouragement from his work.

Third, in order to have more thorough research, all of the special committees set up have begun different degrees of explorations along the direction of their special interests, providing an excellent beginning.

Fourth, some special committees, such as the fourth medicine special committee, have already conducted a number of attempts at the applied science level such as making students more intelligent with some preliminary accomplishments. This type of work is continuing to develop.

Fifth, in the conduct of somatic science experiments, especially in the conduct of human paranormal ability experiments, several special

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problems have arisen such as the discovery that the thought activity of those taking part in the experiments could produce an unconventional reaction on the capabilities of the instruments. This is a phenomenon unseen in ordinary physics experiments.

With this work, and facing the results obtained in somatic science research, this problem has arisen which has attracted attention: How should we view human thought activity? This reminds me of a conclusion of Engels which was that human conscious thought is the highest level of all forms of activities in the material world. Since this is the case, just exactly what effect can this type of the highest form of activity have on other forms of activities. As for this question, standing on the heights of philosophy, Mao Zedong once proposed a topic from the view point of knowledge: Material can be transformed into spiritual, and spiritual can be transformed into material. He also pointed out that this is a leap phenomenon often seen in daily activities. It would appear that our research in somatic science may make some discoveries and some progress in this area. There are now people who are considering: How can conscious activities be tested? There is a scientific researcher in the "Second Artillery" system who developed an instrument which he designed to measure "thought forces". Some of the comrades here today have already taken part in these experiments. How can we continue to develop this? This work should be continued. Also, in the past acupuncture treatment required the use of material needles, but now there are those who hold the needles but do not have to stick the needle into the patients body, but stick the needle into the acupuncture mannikin, and the patient senses this. How is this done? Of the people using this method, there is one called Chen Deshun who is a deputy chief resident. He said that it is possible to stimulate a reaction in the patient through thought activity. Is this really the case. We should use strict testing to demonstrate this, using a "double blind", where the patient does not know beforehand what acupuncture point on his body the doctor will try to affect with his thought activity, and the doctor himself will not know beforehand which acupuncture point will be selected, but this will all be determined at the last moment by those conducting the experiment. Later, the results will be compared, and see if the acupuncture points affected by the doctor's thoughts and the ones the patient sensed were the same. If these experiments are able to produce hoped for results, then it would signify that these new phenomena are presenting a challenge to physics.

To do research and to have results in this research on the open, complex giant system of the human body, methodology is very important. Everyone must conscientiously study and have a firm grasp of the "comprehensive integration method from qualitative to quantitative" brought up by Mister Qian. Since it is from qualitative to quantitative, researchers themselves must have personal practical experience in the things they are researching. It is only in this manner that there can be qualitative knowledge. Therefore, if you are doing research in QIGONG, you should have some personal knowledge of QIGONG. If you are doing research in human paranormal abilities, it would be best if you possessed

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paranormal abilities yourself. Comrade Long Wenyu of the standing board of governors of our society is already in his seventies, and yet has developed a degree of abilities. This is a great inspiration to us all. There are people who oppose us who say that we are all wrong. This spurs us on. If people raise an army against us, it will make us all the more determined, and we will definitely find some way to make it through.

In order to do a good job in somatic science research, we must still thoroughly study and use the knowledge of modern science. At the same time, we should work hard to extract the essence of China's traditional culture. This is our major advantage, and it should not be overlooked. We should be fully aware that research in somatic science is a difficult system engineering project, just like Mister Qian said, we must expend a great deal of energy to collecting and studying in many different areas, and then consider the summarization of this work. In order to do this, we must do a good job in division of labor and cooperation. We must do a good job in organizational coordination. The Chinese Society of Somatic Sciences must consciously undertake these tasks. From the progress made in the past two or three years, the key points of our work are to strengthen the work of the various special committees and to strengthen the various local somatic science societies. For example, the Sichuan Provincial Somatic Science Society has done the following things in about one year: One, the provincial somatic science society leadership section was injected with new strength, with deputy governor of Sichuan in charge of education, Comrade Han Bangyan serving as the director, and Comrades Zhou Mengpu and Wang Puyan serving as deputy directors. The provincial science committee and the provincial education committee also both support the work of the somatic science society. Second, it is making preparations to establish a Sichuan Provincial Somatic Science Research Center with personnel and spaces from the Sichuan Scientific and Technical University. The provincial science committee has approved this and provided expenses. In this manner, they have formed a new scientific research base. The original scientific research base, the Sichuan University Somatic Science Research Lab still continues to progress forward according to its own characteristics. This year it has cooperated with units concerned in Beijing in applying for research topics from the State Natural Science Foundation Commission. In this manner, it has gradually formed a new situation with both division of labor and cooperation. Somatic science societies or research committees in other areas can also create their own new experiences. We are prepared to conduct some investigations and studies to summarize this experiences and to gradually publicize them.

According to the original plan, in the second half of next year we are to convene an international symposium on somatic science. Will we be able to do a good job in this? This will depend on whether or not we are able to bring forth anything of any content. In order to do a good job in preparation, we hope that everyone will make suggestions, and think up some good ideas and like professor Ju Qingquan of the Sichuan Provincial Somatic Science Research Center, who not only took the lead himself, but

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was also able to mobilize even more people who share the common goal to take part in the practical work in somatic sciences. If everyone were able to do this, our forces would be even larger.

In April of this year, a Japanese somatic science exchange group visited China and visited such places as Beijing and Jilin. We were prepared to receive them, and the results were fairly good. In the future this sort of international exchange work will continue to grow. We must all be prepared, and we must not take this too lightly. The building up of international exchange will be an encouragement to us.

In order to do a good job in these things mentioned above, we must also strengthen the work of our society office, and continue to do a good job in our journal and our societies "bulletin". Everyone must work hard to support our journal which is the magazine "Chinese Journal of Somatic Science". We must also support our "bulletin". Information materials work must also be firmly grasped, and some way found to collect even more related information such as the biweekly broadcast on Soviet television of information on human paranormal abilities. We must widely collect such information. At the same time, we must do a good job in informational exchanges and build up our contacts with various areas. It is only in this way that the work of our Chinese Society of Somatic Sciences can be even more effective and more dynamic.

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RESEARCH IN RESTORING A BROKEN LEAF THROUGH ESP

BY: Wang Chongyuan, Shou Zhumin and Pu Xianggen of the Bai Qiuen Medical University

ABSTRACT

This article reports on using ESP to restore artificially broken tree leaves. The experiment was videotaped and this broken leaf was cut into thin strips which were subjected to microscopic examination with an optical and electronic microscope. The examination demonstrated that the skin and zoological cells on the surface of the pittosporum tobira leaf were restored. The experiment was repeated three times at different times in different places, always successful. The shortest time was 23 minutes and the longest time was around four hours. The author has demonstrated this fact in cytology ultrastructure. This will be of major significance for the traditional concepts of restoration of organic trauma.

THE EXPERIMENT

The objective of the experiment: to use biocytology methods to demonstrate the possibility and actuality of ESP restoration of artificially broken leaves.

Dates of experiments: October and November of 1986.

Location of experiments: Bai Qiuen Medical University.

Recording equipment: Autopsy microscope, optical microscope, electron microscope (Japanese, 650 power).

ESP subject: Li Zhanru, female, 19 years old, student at the Changchun Post and Telecommunications College (now a student at the First Military Medical University).

The conduct of the experiment: There was a division of labor among those present at the experiment. There was the subject (the person with ESP abilities - Li), the person in charge of the experiment, a monitor and tester (a volunteer took part) and the observers. The leaves used in the experiment were chosen at random just prior to the experiment (the subject did not know what type of leaf it would be prior to the experiment). The length of the leaf was measured and the leaf was marked. With all the observers watching, the leaf was torn into two pieces, and placed into the hands of the subject (one of four illustration on cover) (translator's note, not available). Then she held it in her fist, and after a length of time, Li said she felt a sensation (meaning it had reconnected), and then in front of the observers she opened her hands to let them see and the state of re-connection was checked. In the process of the experiment, it was required that the subject not leave her seat or open her hand. The observers sat around the subject. In the third experiment, a young woman

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was assigned to do a control experiment. The results of the experiment in the restoration of the pittosporum tobira leaf were conclusive. Although modern biology and medicine cannot come up with an explanation. This author of this experiment did not rely purely on observation with the naked eye. The re-connection and state of restoration of the broken leaf was also subjected to observation at the cellular level.

In order to preserve the biological cells and tissue structure of the pittosporum tariba leaf in a normal and total state, the leaf about to form together was processed with fixer and was encased in wax. Successive slices were made and died for observation.

Viewed microscopically, the two ends of the pittosporum tariba leaves had joined very well and there was no trace of leaf overlapping. Looking at the veins of the leaves, the main veins and the branches as well as the microscopic lines all lined up precisely back in their original position. Although some sections had not yet completely rejoined and small gaps remained, the veins of the leaves were reconnected, and the two ends came together just as they were before separation (cover illustrations two and three) (translator's note: not available). The degree of recovery of the surface of the two ends of the broken leaf was not consistent. The thinner portions near the outer edges of the leaves had been fairly well restored, while at the thicker portions at the veins there were visible gaps, however, they had already grown back together (cover illustrations three and four) (translator's note: not available). Similarly, the degree of recovery for different levels of the leaf were also not completely consistent. Cross sectional slices were made of the joining areas of the leaf, and gradual closing of the surface skin is visible, forming a bridge connection (illustrations five through seven). The spongy tissue and the palisade tissue were successively built up. In the restoration of the original biological tissue, the sequence was from surface to the interior, and at the same time it was also possible to see layers which had not yet been completely restored (illustrations five through eight).

Observation under a sweep electron microscope further demonstrated the above described results of consecutive slicing. The two ends of the broken leaf showed clear inconsistency in the degree of restoration at the surface. The edges of the leaf had recovered far more than the central portions of the leaves, and no gaps could be seen there (see illustrations nine and ten).

Cutting super thin slices of the reconnected portions of the leaf demonstrated the leaf surface was completely restored according to the original tissue structure. The plant cell arrangement was ordered. Similarly, it was possible to see the diagonal gap in the state of complete recovery and near complete recovery (illustrations eleven and twelve).

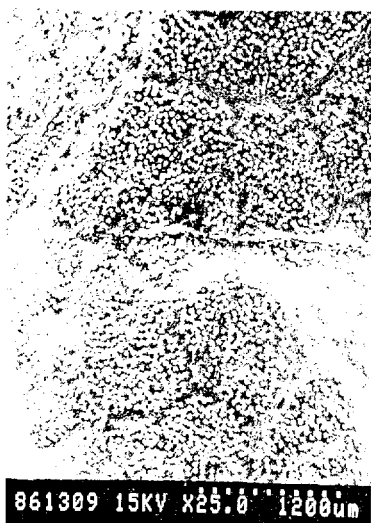
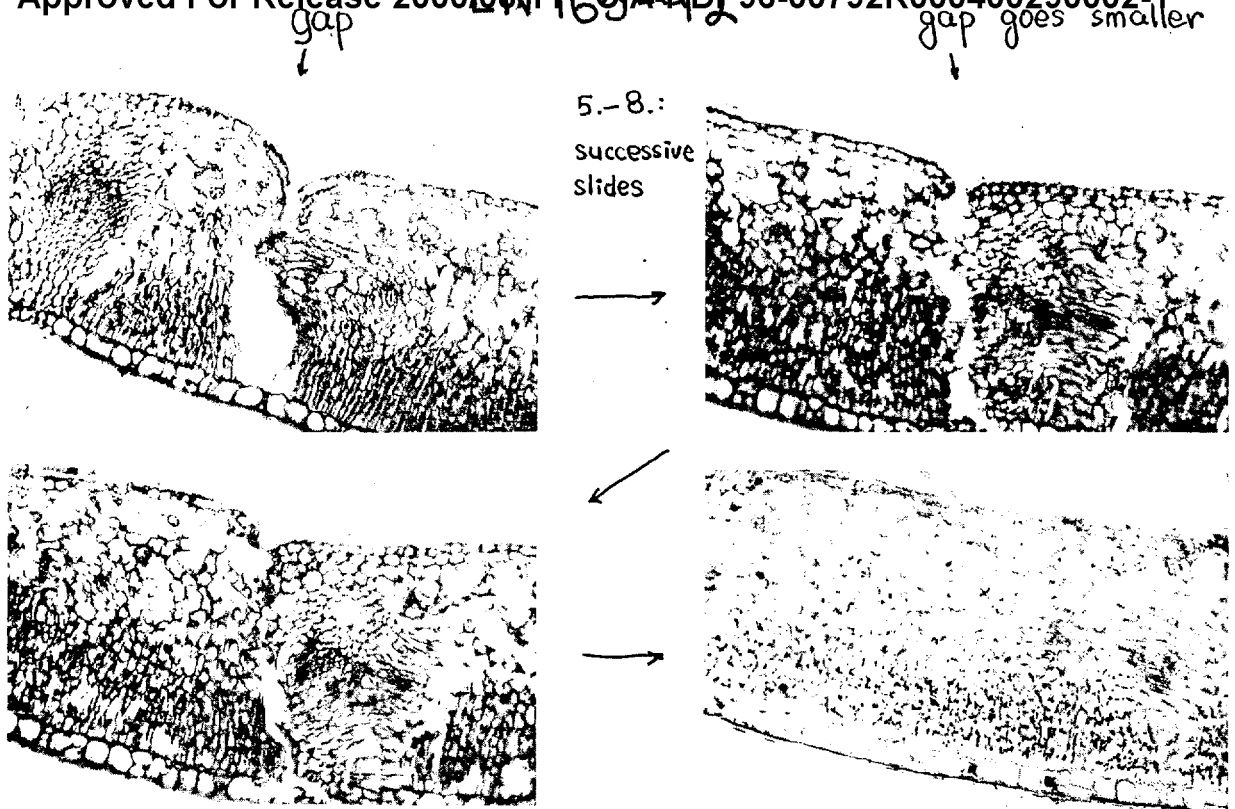


图 5 将接合部作连续切片,叶组织结构逐渐靠近,下表面已经接合

图 6 接合部中层结构逐渐接近

图 7 同上

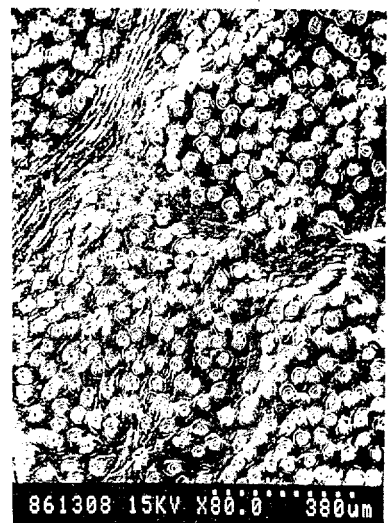
图 8 接合完好部分,植物结构重新组合

图 9 电镜下 接合部分表面结构,可见完好与缝隙同时存在

图 10 同图 9

图 11 接合部分断面表层修复完毕,深层尚存有裂隙

图 12 局部细胞排列逐渐有序



← gap still visible with electron microscope.

see 10.



OX tron microscope

5	6
7	8
9	10
11	12

20



(top of 11):

1000 X matching well

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ILLUSTRATION 5: Making diagonal slices at the juncture, the leaf tissue structure gradually comes closer together, and the lower surface has already closed.

ILLUSTRATION 6: The structures at the middle of the juncture gradually come closer together.

ILLUSTRATION 7: Same as 6.

ILLUSTRATION 8: Completely closed portion, the plant structure has once again closed up.

ILLUSTRATION 9: Under an electron microscope, the surface structure of the juncture portions can be seen to be complete while the gap also exists.

ILLUSTRATION 10: Same as 9.

ILLUSTRATION 11: Recovery is completed at the surface layer of the cross section of the juncture. A gap still exists in the deeper layers.

ILLUSTRATION 12: Regional cellular arrangement gradually becomes ordered.

DISCUSSION

The key to the experiment of the restoration of broken leaves is the question of whether or not Li Zhanru's paranormal abilities actually exist. This is because they are the primary condition for success or failure in the restoration of the broken leaf. Concerning Li's paranormal abilities, continuously checked them for seven years between 1980 and 1986 (up until the time of the experiment). We tracked her from the beginning of junior middle school until she was in college. During this time, she was tested and evaluated by the somatic science research experts of the various institutes of higher learning and scientific research units in our province, and there is no room for doubt about the existence of her paranormal abilities. Her paranormal abilities are multifaceted, such as recognizing characters with her ear, remote sensing, thought transference, and seeing into the human body¹.

As for the success rate of restoring broken leaves and its repeatability, the experiment of restoring artificially torn leaves was conducted a total of three times (not including ten times outside the experiment) with success all three times. The facts illustrate that it is repeatable, and the success rate is high, eliminating random chance. As for recognition of paranormal abilities, the author believes that paranormal abilities have nothing to do with ghosts or goblins, but are a special sense or latent ability of the human body recognized by modern man. There are certain conditions under which it occurs, and these conditions can be learned with energetic training. However, it is also

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restricted by objective conditions. Just as Qian Xuesen said, the human body is a complex giant system. Because in the process of man learning about the objective world is like an endless river, it never stops². We have noted that these three successes took different lengths of time, some longer than others. The first time only took 23 minutes. The experiment was held in a small meeting room, and we had discussed this experiment for a long time, and were very excited and there was a cordial atmosphere. Many of those observing were young graduate students, and the conditions were very simple, there was no special equipment. The second time was much different from the first in that the experiment was held in video taping class room. We used a video camera and there were bright lights all around. The observers were all looked very curious and surprised. The video camera ran the whole time. According to the subject, she was afraid the experiment would fail, and the many psychological factors caused the time for her to succeed to be longer. This is just as professor Zhang Hekang said, the individual consciousness becomes the main participant in the experiment. The so called individual consciousness is, the author believes, the ideas of paranormal abilities. But what are the connection between these ideas and the thought activities of the brain, with the knowledge of paranormal abilities, with the location in time and space when it is used on an object to alter it. Just because it is based on such recognition, we tried to create conditions for each experiment. Actually, scientific experiments all do their best to eliminate extraneous factors such as putting the person with paranormal abilities at ease prior to the experiment, eliminating or reducing the tenseness of the atmosphere, and to conduct some stimulation experiments to induce the abilities of the subject.

As for the question of restoration of the leaves after being broken, we observed the cellular ultrastructure, and in addition to aiding what the naked eye could not see, we also wanted to test the reliability of the observation and the actuality of the joint the broken leaves. Paranormal ability restoration of a broken leaf is not like abracadabra and it is done, but it takes a period of time. Through both the optical and the electron microscope, the complete restoration of the veins of the two ends of the leafs where they come together can be clearly seen, and there is no possibility of trickery. Even if someone were to try to glue the leaf together while watching what he was doing, it would be impossible to get the vein patterns to come together so perfectly and smoothly. The author believes that to do this through some sort of trick, the following conditions would be necessary: (1), it would be necessary to know beforehand what type of leaf was going to be used. (2), it would be necessary to have some sort of tools. (3), There would have to be a certain amount of time and space. Throughout the entire process of the experiment, none of the conditions for trickery were present. The samples were chosen at random and there was a double blind. The recover of the leaf was plant cell recovery. The entire process from disordered to ordered, and it occurred gradually. This also demonstrates the objective factors necessary for the transition process. Under an electron microscope, the viewing of successive slides of the tissue at the juncture

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of the leaf demonstrates this process, even though we are unclear of the mechanism through which of human paranormal ability restores a broken leaf. This will require further investigation. However, the revelation of this fact raises two necessary considerations.

1. ESP can restore a broken leaf, can it cure wounds or diseases of the human body? It would seem that it may.

2. It would be a contribution to medicine to further clarify the mechanism of ESP cures and use this for wound recovery and disease treatment.

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A PRELIMINARY INVESTIGATION INTO THE MECHANISM OF "THOUGHT TRANSFERENCE"

BY: Shao Laisheng, Lu Huihua, Shen Yunhu and Fang Linhu

(Fudan University)

In the process of "thought transference" experiments, there must flash before the frontal lobes of the person sending the messages and the person receiving the messages an ESP special "screen"¹ in order for transference to take place. We took the screen flashing time to be the sending and receiving time. We discovered that at close distances (100 to 1000 meters) times for sending and receiving messages were very much the same. Both times differed from a few seconds to several minutes. Later while conducting long range (over 100 kilometers) through transference experiments, we discovered that the difference between sending and receiving times differed by as much as several hours. This new phenomenon of "time differential" caused us to do further explorations. This article introduces in some detail the experiments and the results. It discusses the process of how we became aware of the generation of "time differential" and our hypotheses. On this basis, we propose a hypothesis for the mechanism of "thought transference" which is related to the memory storage system of the brain.

THE EXPERIMENT

I. In the process of short range thought transference experiments, we determined the times the "screen" appeared for the sending and receiving subjects by looking at our watches when they said the screen had appeared. There are quite a few subjective factors here, so we need to change over to using stop watches to record the sending and receiving times. This means we must push the button on the stop watch immediately when the screen appears to the sender and the receiver in order to reduce any man made effect. Table one is a portion of the experimental results.

The experimental conditions for table one: The message was composed of two arabic numerals. The sending distance was about 100 meters. There were seven comrades with ESP abilities who took part in the experiments. Although we did everything possible to synchronize the stop watches, there was a time discrepancy of from ten seconds to more than two minutes. We also compared the records of experiments of more than 100 experiments of transference from 100 meters to 10 kilometers. The time differential still changed in an unpatterned manner. We did not detect any pattern of change related to the distance. Therefore, during this stage of close range experiments, our explanation of the "time differential" is that we just believe it is generated by subjective influences on the subjects, and experimental error primarily comes from factors which we could not control.

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TABLE ONE: CLOSE RANGE THOUGHT TRANSFERENCE
TIME DIFFERENTIAL OF SCREEN APPEARANCE TO SENDER AND RECEIVER

表 1 近距离思维传感发、收双方屏幕出现的时差

编号 ¹	发送者屏幕 出现时间 ²	接收者屏幕 出现时间 ³	时差 ⁴
1	8'42"	8'52"	10秒 ⁵
2	13'16"	13'33"	17秒 ⁵
3	7'15"	7'56"	41秒 ⁵
4	17'26"	18'42"	16秒 ⁵
5	31'11"	33'21"	2分10秒 ⁵
6	9'49"	11'16"	1分27秒 ⁵
7	27'16"	29'37"	2分21秒 ⁵
8	12'21"	13'25"	1分4秒 ⁵
9	17'01"	17'32"	31秒 ⁵
10	17'15"	19'10"	1分55秒 ⁵

1. Test number. 2. Time screen appeared to sender. 3. Time screen appeared to receiver. 4. Time differential. 5. Seconds. 6. Minutes.

On 18 January of 1990, we were successful in our first long distance "thought transference" experiment (between Shanghai and Changzhou, a distance of about 200 kilometers). The results of the experiment were completely beyond our expectations. While eliminating any possibility of message transfer by any other means, the time differential between the sender and the receiver was as much or more than six hours. The results of this experiment are given below:

It was arranged by the persons in charge of the experiment at both terminals that: At 12:30 PM and 19:00 PM on 18 January there would be a thought transference experiment. At 20:00 exactly, the persons in charge of the experiment at both places would compare the results of the experiment over long distance telephone. At Changzhou at 12:30, the person in charge of the experiment, Lu Huihua, randomly wrote two messages to be transferred and gave them to two senders, Ji Meiyun and Yin Yufang. Ji's message was "Return to Shanghai Saturday afternoon", and Yin's was "274". Ji's screen appeared at 12:41 and 12:50. Yin's appeared at 12:42 and 12:53. In Shanghai, the person in charge of the experiment there was Shao Laisheng. Beginning at 12:30, four persons including Pang Fei began receiving. However, within the allotted time for the experiment (45 minutes), the screen had not appeared. This experiment was called a failure. That night, at 19:00 both sides began the experiment again. The message sent by Ji was "914", and the one sent by Yin was "Did it rain in Shanghai today"? However, the messages received in Shanghai were those which had been sent from Changzhou at noon, and not those which were sent that night. The time of transference between those two places was more

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than six hours.

The next day, another two more experiments were conducted exactly like the day before (except the messages were different) with exactly the same results.

Between 23 and 30 January, we conducted four completely successful thought transference experiments between Shanghai and Taixing, and the time differential was still fairly large. The results of the experiment are given in table two.

TABLE TWO: SHANGHAI TO TAIXING "THOUGHT TRANSFERENCE" TIME DIFFERENTIAL BETWEEN APPEARANCE OF SCREEN TO SENDER AND RECEIVER

表 2 上海至泰兴“思维传感”发、收双方屏幕闪出的时差

实验日期 ¹	信息内容 ²	发送者 ³	发送者屏幕 ⁴ 闪出时间	接收者 ⁵	接收者屏幕 ⁶ 闪出时间	时差 ⁷
1/23	我是庞斐祝你新春快乐 ⁸	庞 ⁹	18:43	黄 ¹⁰	21:35	2小时52分
	我是季美芸祝你好运气 ¹¹	季 ¹²	18:46	张 ¹³	21:13	2小时27分
1/24	我是庞斐祝你好运气 ¹⁴	庞 ¹⁵	18:45	印 ¹⁶	21:15	2小时30分
	我是季美芸祝你新春快乐 ¹⁷	季 ¹⁸	18:44	肖 ¹⁹	22:00	3小时16分
1/25	900125 ²⁰	庞 ²¹	18:39	黄 ²²	21:10'	2小时31分
	(茶杯) ²³	季 ²⁴	18:40	张 ²⁵	21:22	2小时42分
1/26	上海现在正在下毛毛雨 ²⁶	庞 ²⁷	18:45	印 ²⁸	21:15	2小时30分

1. Date of experiment. 2. Content of message. 3. Name of sender. 4. Time sender's screen appeared. 5. Name of receiver. 6. Time message appeared to receiver. 7. Time differential (in hours and minutes). 8. "I am Pang Fei wishing you a happy New Year." 9. Pang. 10. Huang. 11. "I am Ji Meiyun wishing you good luck". 12. Ji. 13. Zhang. 14. I am Pang Fei wishing you good luck." 15. Pang. 16. Yin. 17. I am Ji Meiyun wishing you a happy new year". 18. Ji. 19. Xiao. 20. "900125". 21. Pang. 22. Huang. 23. (tea cup). 24. Ji. 25. Zhang. 26. "It is drizzling rain now in Shanghai". 27. Pang. 28. Yin.

DISCUSSION

I. From a superficial view of the above long distance thought transference experiments: The reason the time differential from Changzhou to Shanghai was over six hours was because the two experiments were scheduled six hours apart. From Shanghai to Taixing, the message was

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likewise not received in the allotted time, and after more than two hours, each person actively received one more time. Therefore, the "time differential" cited above is related to the interval between two ESP functional states, and this time interval was artificially determined. However, in actuality, there is a time delay of several hours between sending and receiving in "thought transference". This is where the basic nature of the "time differential" lies. Therefore, we must propose new explanations, and the new explanations obviously must be tied in with the question of the mechanism of thought transference.

We believe a possible explanation is: The "time delay" phenomenon is related to the storage and memory functions of the brain. This hypothesis can be tied in with the study of modern psychology and theoretical models of memory. In the process of understanding this world, the role of storage and memory are a very important link. Simply stated, there is constantly changing information from our surrounding environment, mainly through light waves and sound waves which affect our sensory organs, transforming physical stimulation energy into nervous activity. The nervous activity is carried to the brain where it generates sensation and perception. Furthermore, the filtered information is all automatically stored in the memory system. Later, through recollection, it is possible to retrieve the stored information, and by analyzing and summarizing this information, man gains a better understanding. We can use similar methods to illustrate the "time differential" phenomenon of thought transference, which is also due to the generation of a memory storage effect in the brain.

If the receiver of thought transference goes into an ESP state within the allotted time, but the "screen" does not flash before his temporal lobes, then it is generally believed that the experiment did not succeed (the subject was affected by physical and psychological internal and external interference, this is a common occurrence). However, we cannot eliminate the possible existence of a certain ESP receptor in addition to the other ordinary sensory organs of the body, and that it can enter ESP radiated information into the memory storage system of the brain. Later, the receiver, out of necessity, goes into an ESP state, and can retrieve the stored ESP message, which reappears on the "screen". Therefore, in long distance thought transference experiments, due to the memory storage effect of the brain, the information going from storage to the screen would allow for the existence of a fairly long time differential.

2. In order to better explain the above hypothesis, we have used the following diagram.

Illustration one supposes that the differences between the thought transference transmitting and receiving processes are only in the transmission time, and outside information goes through normal information reception systems (sight, hearing, touch, etc.) into the brain to be stored in the memory system. ESP information carriers go through an ESP reception system (ESP receptors) and are entered into the memory storage

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system. However, later information processing, up until the screen appears, the process of ESP radiation generation is similar. In illustration one, the "Screen effect generating system", the "ESP receptors" and the "ESP radiation" are all hypothetical. Even though their existence cannot be demonstrated by physiological, psychological and physical experiments, we can list a number of related experiments to illustrate that there is a certain objective basis to this chart.

ILLUSTRATION ONE: "THOUGHT TRANSFERENCE" SENDING AND RECEIVING FLOW CHART

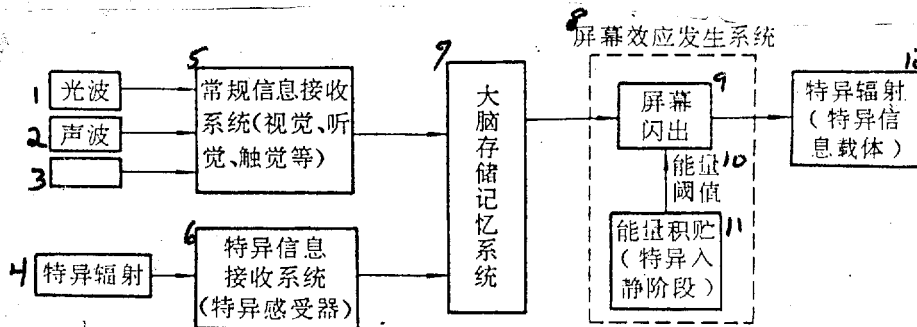


图 1 “思维传感”发送和接收过程示意图

1. Light Waves. 2. Sound waves. 3. Other sensual stimuli. 4. ESP radiation. 5. Normal information reception systems (such as sight, hearing, touch, etc). 6. ESP information reception system (ESP receptors). 7. Brain memory storage system. 8. Screen effect generation system. 9. Screen flashes. 10. Energy threshold value. 11. Energy build up (ESP state). 12. ESP radiation (ESP signal carriers).

In order to demonstrate the connection between thought transference and the memory storage system of the brain, we conducted the following experiment: When the thought transference experiment just began, the sender would randomly pull out a sample from the sample bag and concentrate on it for thirty seconds. Then the person in charge of the experiment would burn the sample on the spot. Then the sender would, as in our ordinary experiments, after 20 minutes or so, say that the "screen" had flashed in his head and the time would then be noted. The receiver 100 meters away would, as in our ordinary experiments, write down the message content and the time the screen appeared. This would end the experiment. We also conducted some experiments on hearing storage effects, and at the start of the experiment, the person in charge of the experiment would verbally inform the sender the contents of the message, and the sender would transmit it to the receiver at the other end. The results of this experiment were the same and a portion of the results are shown in table three.

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TABLE THREE: EXPERIMENTAL RESULTS CONNECTING THOUGHT TRANSFERENCE WITH BRAIN MEMORY STORAGE

表 3 思维传感与大脑存储记忆相关的实验结果

编号 ¹	实验方法 ²	实验开始时间 ³	发送者屏幕闪出时间 ⁴	接收者屏幕闪出时间 ⁵	信息存储时间 ⁶
1	7 视觉 ^②	9:05	9:18	9:30	13 分钟
2	7 视觉	18:40	19:03	19:05	23 分钟
3	7 视觉	18:40	19:06	19:06	26 分钟
4	8 听觉 ^③	9:05	19:21	9:21	16 分钟
5	8 听觉	18:30	18:45	18:50	15 分钟
6	8 听觉	18:30	18:43	18:56	13 分钟
7	8 听觉	18:30	18:41	18:45	11 分钟
8	8 听觉	18:35	18:45	18:51	10 分钟
9	7 视觉	18:30	18:50	18:50	20 分钟
10	7 视觉	18:30	18:46	18:47	16 分钟

注：①“视觉”指发送者看完试样，立即烧毁。②“听觉”指实验主持者口传信息给发送者。

③信息储存时间=发送者“屏幕”闪出时间~实验开始时间

1. Number. 2. Experiment method. 3. Time experiment began. 4. Time of screen flash for sender. 5. Time of screen flash for receiver. 6. Information storage time. 7. Sight. 8. Hearing.

Notes: (1) "Sight" refers to the immediate burning of the message sample after the sender has read it. (2) "Hearing" refers to the person conducting the experiment verbally giving the message to the sender. (3). The information storage time is the time is the time from the sender's "screen" flashed until the experiment began.

We also delayed the storage time in the senders brain, by one or two days prior to the experiment allowing the subject to memorize the contents of the message and keep it in his memory until the time he sent it. The results were not much different from the other experiments.

The experiments above illustrate the connection between the mechanism of thought transference and the memory storage system of the brain. This is also an important experimental basis for explaining the phenomenon of "time differential".

2. What is the nature of the field of "ESP radiation". This is still not clear, but many researchers believe that it may be a type of electromagnetic field^{2,3,4}. In a number of experiments using modern instruments to measure ESP phenomena^{5,6,7}, there is no way not to

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hypothesize the existence of "ESP radiation". In "Unconventional Responses in ESP Measurements"⁸ by Comrade Zhu Nianlin and others of Yunnan University, there is a comprehensive discussion of this question to which the reader may refer.

3. Is the "screen flash" a necessary condition for the generation of "ESP radiation". To attempt to answer this question, we designed the following experiment. According to what the subjects have told us and what has been demonstrated in our experiments, thought transference sending and reception both require the informational "screen" to flash in the mind. Also, it is necessary for the receiver to know prior to the experiment who the sender is (Although the reverse is not necessary) in order for thought transference to happen. Now hypothesize that there are three subjects, A, B, and C in different locations participating in the experiment. A is to send the messages, B is to receive the messages from A, and C can only receive information from B, so C cannot know beforehand who A is. If C is able to receive A's message and there are no problems with the experiment, then it can show that C is receiving messages from B. That will mean that whether sender or receiver, if there is the flash of the "screen" in the mind, there must be radiation generated. We conducted this experiment over and over with the conditions as described and the results were conclusive.

Based on what the subjects told us and from our deductions of the experimental phenomena, we believe: Whether ESP or PK experiments, there must be a flash of the "screen" in the mind of the subject and that "ESP radiation" is given off. This may be a type of universal phenomenon in ESP.

4. The hypothesis of the "screen effect generation system" is primarily based on materials from the article "Indication of ESP Abilities - the Screen Effect"¹ because after each ESP experiment is over, the subject often states that he feels exhausted, and at times has a head ache. It is also possible from the materials introduced in [9] that during ESP recognition of characters and shapes, there were changes in the pulse, with spontaneous changes in regularity and rate, which is similar to the changes in the pulse of athletes after great exertion. From the materials introduced in [10] that during ESP character recognition, there was an increased blood flow in the brain. Both of these are sufficient to illustrate that the occurrence of the "screen" requires an energy supply and the energy is released through the pulse. This can also explain why when the test subject does not feel well or is tired, especially female test subjects during menstruation, the success rate of the tests are extremely low. At such times they will often state "the screen did not appear", "the screen was very dim" or "the screen was fuzzy". If they are happy and full of energy during the tests, the experiments often are very completed quickly with high success rate. at such times they often reply "the screen was very bright and clear". This may be related to the storage of energy. Therefore, we hypothesize that when someone with ESP enters an ESP state, he is storing energy. Once the energy threshold is

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reached, then this will set off the "screen flash" and release "ESP radiation".

CONCLUSIONS.

This article discusses the "time differential" phenomenon which occurs in the process of thought transference experiments. On this basis, it proposes the hypothesis of a thought transference mechanism. We know that the human body is an open, complex giant system¹¹, and that thought transference is only one of the human paranormal abilities. Therefore, the hypothesis we propose can only be restricted. However, we hope that this will draw more attention and research in the future to further demonstrate this thought experiments.

Comrades Shen Zujia, Gu Yuanzhuang, Zhou Yingqi, Huang Jinggen, Zhu Yangru participated in the discussion of this work, and gave us helpful opinions. We express our appreciation for this. We also express our heart felt thanks to Pang Fei and the other six subjects in these experiment for their close cooperation.

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A GENERAL SURVEY OF PARAPSYCHOLOGY IN FOREIGN COUNTRIES

BY: Ren Xin

This article was formed by arranging bits of materials collected in the process of taking part in ESP research all over China concerning the state of similar research in foreign countries. Because there has been no systematic and objective survey of foreign research, there are many holes here which are unavoidable. There will even be some mistakes and perhaps more than a few. It will only serve to allow the reader somewhat of an understanding.

This article is broken down into five major areas, the history of parapsychology, research, theoretical exploration, the situation in several nations doing major research, and primary publications.

THE HISTORY OF PARAPSYCHOLOGY

Foreigners generally lump ESP phenomenon into something they call Psi phenomenon. The greek letter Psi is used to represent unknown phenomenon. The field of study researching these phenomena is called parapsychology.

The term parapsychology has been around since the 1930's, but research into psi phenomena has been around for much longer. Its roots go back to early man. From ancient times, tribal religious leaders, shamans and fortune tellers have used ESP to predict events, treat ailments and hypnotize others. As for examples of this, China's history books have many such records. Mister Chen Taoqiu and others have done research on this in China.

However, in foreign countries it is generally believed that parapsychology research did not begin until 1882 when England first established a mass organization called the "Society for Psychical Research". The establishment of this society was influenced by advances in research of hypnosis at that time. Because at that time hypnosis was accepted by everyone, and hypnosis was another avenue of studying the subconscious. Therefore, the use of hypnosis to study parapsychology still exists in parapsychology research to this day. Another major influence was a sect in Sweden which specialized in studying psychic activities between the living and the dead. This included studying such things as "hauntings". This psychic research was conducted through a so-called "spiritual medium". The living would speak to the dead through the "medium" (this is similar to the folk custom in China of "Tiaodashen". The "medium" was a person with psychic abilities.

Because of the complexity of these phenomena, there was a great deal

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of fraud and bunco mixed up in it, which multiplied the complexity many times over. However, after eliminating the shams, there are still quite a bit of startling things here. In 1976, a British Physicist Balei (translator's note: phonetic) conducted a scientific investigation of this phenomenon and produced the first scientific report on it.

In 1882 in Cambridge University several students and doctor Duoboli (translator's note: phonetic) worked to set up the world's first ESP research society, the Society for Psychical Research in London. This may be called a beginning point for modern ESP research. This society stated that they would study any ESP phenomena which no modern theory could explain with a scientific attitude of no bias or prejudice. They also stated that they would change the state of confusion which existed in the research of psychic abilities and turn this research work into an orderly collegiate study. Not long afterwards, France, Germany and Poland also established similar societies. In 1885, the United States also established a society. During this period the following major work was done: (1), a large amount of reports describing psi phenomena were collected from surveys and research, and these were sifted through, and those which were self contradictory or lacked foundation were eliminated. (2), A separate study was done on "spiritual mediums" and several sham artist "mediums" were exposed. (3), Laboratory research was conducted on mental telepathy under controlled conditions. The book entitled "Life and Fantasy" was published, which proposed that long distance transference of sensations was possible at will and under experimental conditions.

After the societies were established up until the outbreak of the First World War, fraud "mediums" were extremely active. Although the psychical society subjectively wanted to conduct some scientific studies, objectively it lacked a complete set of experimental methods, so the quacks and frauds were everywhere. People often blame this quackery on the psychical society.

After the First World War, a number of noted people appeared in this field of research. One was England's experimental psychologist Maik Tangna (translator's note: phonetic). Two others were the Duke University Zoologists Mister and Misses Rhine. The Laien couple began the new method of studying psi phenomena in the laboratory in the United States in 1927. In order to clearly delineate themselves from the earlier psychical research, they called their field parapsychology. The Laien couple also used several new measures in their experimental methods such as strict statistical methods, double blind method, and random sampling. They also invented a type of testing cards with five symbols called qina (translator's note: phonetic) cards. Another was experiments conducted at the Leningrad Institute for Brain Research by professors Beihejieliefu (translator's note: phonetic) and Dulofu on the power of suggestion on the activity of dogs. Later they published a report entitled "Research on the Affect of Thought on the Activity of Dogs". In the fall of 1922, a thought suggestion research committee was established at the brain institute.

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Against the background of this research, in 1928 the famous French biologist Luge (translator's note: phonetic) was the first to establish an international committee for parapsychological research. It started out with 19 members, and by 1935 it had grown to 26. At the same time, a parapsychology research center was established in Paris. The research institute had a laboratory equipped with physical and biological instruments. Between 1928 and 1938, it primarily conducted research into the psychological and psychological basis for mental telepathy and power of suggestion.

From 1941 to 1945, during the Second World War, the Society for Psychical Research moved from Europe to New York. Currently, all five major continents have parapsychology societies. For example there are such societies in India, Japan, South Africa, Finland and Argentina.

From 16 to 21 August of 1982, the international parapsychology research society celebrated the 100th anniversary of its founding and the United States Parapsychological Association celebrated its 25th anniversary at a joint annual meeting at Cambridge University. More than 300 delegates attended the conference, and more than 90 papers were read there. The Chinese Society for Somatic Science (preparatory) sent professors Chen Xin and Mei Li as delegates to attend this conference. The conference specially arranged for the Soviet and Chinese to speak (the Soviet delegate was unable to attend). The majority of the papers were printed as a collection of two volumes.

II. RESEARCH CONTENT

There are two popular definitions for parapsychology in foreign countries: (1), "so-called parapsychology is a type of scientific research, it is a type of scientific research that studies phenomena which cannot be explained by other scientific fields." (2), "Parapsychology is a branch of science which studies interactions between biological entities and their surrounding environment (this environment includes biological and non biological objects) which actually exist but which cannot be detected by known senses or the naked eye." The latter definition appears to be closer to that of our researchers.

At the present time, it seems that the contents of parapsychological research in foreign countries generally includes the following aspects (it is said that there are more than 240 experimental labs and associations in more than 30 countries).

(1). ESP, Extrasensory Perception. This refers to a type of biological informational exchange which does not pass through normal sensory channels. It includes mental telepathy, X-ray vision, paranormal vision and precognition.

(2). PK, Psychokinesis. This refers to a biological entity using a

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type of paranormal force to alter the state (mechanical, physical or chemical) or nature of objects in the outside world.

(3). Residual entity phenomenon. The so-called residual entity refers to after a biological entity has died or at least when it has just died, something that can exist away from the flesh. Specific research is in the three following aspects. (1). Research into reincarnation. This is that after death, there is a residual entity that totally or partially attaches itself to another person and is thus reborn. (2). Phantasm research. For example seeing a person or object which is not there or which has already died. (3). Research into spiritual mediums. This aspect is relatively complicated, and there are a number of spiritual mediums which have a certain amount of ESP, and some are shams taking advantage of the superstitious.

(4). Out of Body Experience. This is research into experiences of leaving the corporeal body. It refers to the unique experience of someone leaving his corporeal body and existing in a certain place in space (similar to the "floating spirit" in QIGONG).

5. Other research. This includes hypnosis, power of suggestion, QIGONG and Yoga, human radiation fields, ESP treatment of ailments, and networks. Most of the research in China is concentrated in items (1), (2) and (5). China's research has its own special character, such as "recognizing characters with the ears", "breaking through spacial barriers", "inducement training", and "the connection between ESP and QIGONG". They all have their own unique aspects.

Known successes in foreign countries at the present time are:

(1). ESP research has primarily been concentrated on ESP information channels, introducing the concepts of information theory and the theories of communications. Major discoveries include feedback may restrict the attenuation effect; dream visitation, preliminary testing of brain induced potential in mental telepathy; and stimulation in a waking state to enhance the large field of view used in long range vision. There have been certain advances in mental telepathy.

(2). In Psychokinesis there has been a great deal of research, and many methods have been used. As for laboratory research, there is the high energy high level voltage effect labs, and there is low level mass inducing micro PK voltage effect. These include experiments in macroscopic effects and microscopic effects. For example marble distribution patterns and seemingly gaussian distribution. Here, thoughts are used to alter the gaussian distribution pattern of falling marbles. This is macroscopic. The use of thought power to alter light interference patterns, heat sensitive resistance values, and atomic decay are all experiments in generating microscopic effects. In applied experimental equipment, it is currently believed that the best is the random number generator invented by Schmidt. This invention can be used for research in

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microscopic PK phenomena. Some also use Strontium 90 random beta decay as a noise generator, to observe the effects of PK on it. It has been discovered that there are low levels of PK effects, which indicates that human ESP can affect the atomic processes in the microscopic world. Quite a bit of work has been done on PK and human radiation using persons with strong ESP powers.

(3). The relationship between the subject and the researcher, including the sheep - goat effect which is generally accepted. There has been experiments on ESP and intelligence, sex and psychological state of the subject.

(4). There has been some progress in residual entity research. There have been large amounts of investigative reports on interviews with persons who were clinically dead and brought back to life.

III. THEORETICAL EXPLORATION

There have been explorations in many different areas of theory. The general trend is from the earlier "field" theory toward quantum mechanics and non physics nervous system theory.

1. Transmission theory.

Because of the existence of such phenomena as mental telepathy, it is very natural to imagine a type of physical transmission process exists between brains.

(1). Electromagnetic wave transmission. In 1929, Hans Berger measured a rhythmical current emanating from the center of the brain, demonstrating that there was a certain electrical process in the cortex of the brain. Accompanying this, the human brain could emit a type of signal carrying electromagnetic waves which could be received and the information translated by someone else's brain, which would be one possible mechanism of mental telepathy. In 1940, Hoffman added more to this. He believed that the intensity of the electromagnetic wave was inversely proportional to the square of the distance, but the intensity of the information did not weaken over distance, but it was even possible to have automatic volume control like on a radio, allowing the signal to be intensified, reducing the weakening effect of distance.

Soviet biologist Waxiliyefu (translator's note: phonetic) also held to this type of theory. Another soviet scholar, Kogen, believed that mental telepathy was carried on super long wavelength electromagnetic waves stimulated by biological electrical currents.

(2). Particle transmission.

Some people believe that it is the neutrino that act as the carriers. However, neutrino have too little effective surface, and do not seem to be

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a likely candidate.

Leningrad Physicist Xingxun (Translator's note: phonetic) and others have pointed out that it could possibly be carried by particles travelling faster than the speed of light. This is only speculation.

(3). Psychic energy and the theory of harmonics.

In 1940 Boge (translator's note: phonetic) proposed a certain theory, that the brain cortex could transform a new energy state - psychic energy. It could travel like waves to carry over long distances and not be affected by obstacles. When it reached another brain, it could also be transformed into physical energy and cause changes in the brain, and be used to explain mental telepathy.

In 1960, N., Marshall added to this, proposing the harmonic theory. He believed that there was a harmonic effect between two "structurally similar" brains. They would effect each other to a greater degree, and mental telepathy was harmonics between brains.

Soviet Yiliuxing (Translator's note: phonetic) in 1970 proposed the effect of "bioplasma", believing that bioplasma was the fourth state of matter and could be captured by using the Jili'an (Translator's note: phonetic) photography. The transmission theories above can only help to explain mental telepathy and cannot explain ESP, because it is difficult to imagine that objects can generate transmission matter like the human brain.

(4). "Physical" field theory.

In 1956, Wassermann proposed a theory which could be used to explain several biological, psychological and parapsychological phenomena. He hypothesized three fields:

B field: a field related to nervous activity.

P Field: a field connected to the matter of the object.

Psi field: The corresponding quantum of this field is extremely small, smaller than a photon, so it cannot be absorbed by ordinary matter and can carry long distances. In mental telepathy, the senders B field stimulates the Psi field in space, which then stimulates the receivers B field. In the ESP process, the P field stimulates the Psi field, which then stimulates the receivers B field. However, the problem is do these fields really exist. This is very difficult to prove.

In addition, there are also those who propose the existence of Psitrons, which when viewed from wave particle duality, are not much different from the field theory.

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2. Quantum theory:

In the seventies, Walker proposed a theory which he used to explain ESP and PK. This theory was basically the hidden parameter theory of quantum mechanics. Walker believed that: "Quantum mechanics believes that any physical body such as the brain (as a physical object), due to the movement and interaction of the particles of which it is composed, will change over time. From a definite form it will change to several latent states. As for what latent state will actually become a visible physical reality state, that is not determined by the restriction of physics. The changes in a system such as the human brain are random. Because observation (this is the physicist's word) is the determinant of the hidden parameter C_1 (consciousness) value, it allows the state loss to be reduced a single component state. Many different latent states become the single physical state of the human brain. This type of process proceeds continuously at such a high speed, it is like an unbroken stream of consciousness." We can see from this that Walker's primary idea is consciousness or thought playing the hidden parameter role. However, here consciousness and thought are not philosophical concepts, but are the physical process they follow. He further believed that: "thought" not only is able to influence changes in the brain itself, but can also effect changes in the outside world. The human brain is connected to the outside world through its sensory input to form one even larger physical body. The foundation of Walker's quantum theory consciousness theory is optical system photoelectrically transmitted synaptic energy transmission theory and synaptic anatomy structure as well as molecular informational storage. He has two hypotheses: (1), consciousness is a non physical reality. (2), the physical world is connected to consciousness through a certain physical basis. Naturally this type of theory is fairly crude.

3. Space time topology theory.

Back in the thirties, Einstein and Rosen studied in detail Schwarzschild's explanation, to clarify the geometric structure of a non rotating black hole, obtaining the graph of the so-called worm hole which connected two universes or two space time regions of the same universe. If the space time topology structurally has worm holes, it could provide a possible model for Mental telepathy and PK.

In 1972, Schmeidler proposed that ESP could cause time and space to bend, forming tunnels. She believes that: "There is another dimension to ESP or PK effects. This dimension could produce topology overlaps, and thus could cause two regions separated at the center of Einstein's universe to come together". "ESP targets are an informational pattern which symbolizes object". This type of pattern is transmitted in another dimension.

Between 1973 and 1974, Gammoner and McCully directly adopted the worm hole concept of geometric mechanics, feeling that the wormhole was a tunnel.

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4. The formative causation hypothesis.

In 1981, doctor Rupert Sheldrake of Claire College of Cambridge University published in England a book titled "A New Science of Life, the Hypothesis of Formative Causation" in which he reached the following conclusion: Heredity may be generated by certain factors outside of the biological entity. The author proposed a brand new unique theory toward how the formation of living organisms and their development and behavior are determined. He believes that the form, behavior and such of a living entity are determined by a type of morphogenetic field which is not yet accepted by the natural sciences. This type of field is neither electromagnetic nor is it gravitational. If they exist, they should have a new natural law. When an entity develops, there are several possible directions. The effect of the morphogenetic field causes the entity to develop toward a specific direction. The genetic character is not completely determined by genes, they are influenced by the morphogenetic field.

After this book was published, it caused quite a stir in the field of physics. Some people felt that this was abandoning modern science, and other people felt his work was thoroughly thought out and was innovative. When the annual meeting of the United States Parapsychology Conference and International Psychic Phenomenon Research Association was held in Cambridge University in 1982, the author introduced this theory, and there was a great reaction from those attending. It was seen as a promising hypothesis to explain ESP.

5. Wholeness and Implicate Order.

In 1980 physics professor David Bohm of London University came out with a book entitled "Wholeness and Implicate Order". This book's primary point was that the entire universe is a single entity, and everything was viewed from this point. Modern science has destroyed the integral theory. Bohm feels that modern so-called molecules, atoms, and primary particles are all temporary manifestation within the universe, and are not real.

Therefore, Bohm feels that the Heisenberg uncertainty principle in quantum mechanics only refers to surface phenomena. There is another even deeper layer of things which he calls the implicate order. It is this deeper layer that influences the upper layer. The size of the primary particles are 10^{-15} cm. If we hypothesize the combination of quantum mechanics and gravitational fields, there is another extreme measurement, 10^{-34} cm. With such dimensions, the entire time space leaps extremely quickly, and is not at rest but is a type of chaotic very many rapid changes. If there were a theory of determination underlying such small dimensions, it is Bohm's implicate order. In this manner, the uncertainty principle in quantum mechanics can be explained. Furthermore, in the overall movement on such a small scale there is no light or electromagnetic wave, not even the limitation of the speed of light. Bohm himself said at a news conference: "I have not yet completely established

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this theory. Once it is established, such parapsychological phenomena such as ESP and PK can be explained and there will be nothing strange about them.

In summation, there are a few more foreign hypotheses and theories about ESP, such as multidimensional space and so on. However, there has not yet been one satisfactory theory which everyone can accept, so they are still groping one step at a time.

IV. AN INTRODUCTION TO A FEW PRIMARY RESEARCHING NATIONS

1. THE UNITED STATES

It is generally believed that modern research in parapsychology, experimental research began with the American Joseph Banks Rhine. He was the founder of the Parapsychology Research Lab at Duke University. Later he served as an advisor. Rhine used the terms ESP and PK. He also a group of 25 cards, with each card containing one of five symbols - cross, star, circle, square or three parallel lines for ESP experiments. In this manner, the success rate of ESP subjects could be calculated.

In 1957, the United States established a Parapsychology Society. This is an international academic group. In 1969 that society became a branch of the United States Committee for the Promotion of Science. Now many universities have courses in ESP. Several universities have also set up masters and doctorate programs. This association formally participated in academic activities of the Institute of Electrical and Electronic Engineers of the United States from 1976 to 1977.

In the United States there are seven research centers. One of these, the Stanford Research work is also supported by such organizations as the United States National Aeronautics and Space Administration and the United States Navy. It is currently exploring the possibility of practical applications. Esalen Research Institute in California is using QIGONG and ESP technology in research, education and medical treatment. It has used computers to collect weekly from 7,500 magazines from around the world research centered around tapping and utilizing human potential. The contents involve dozens of fields including consciousness, mind control, self training, hypnosis, physical education, quiet state, relaxation, yoga, Buddhism, ESP, biofeedback, acupuncture, and longevity. They believe that research into developing human potential is more important and has more practical significance than selective engineering. They raise the example of the success in anti cancer research, which has demonstrated the significance of human potential research in medical and longevity research as well as manned space flight.

In 1981, in the 57th issue of the American Association for the Advancement of Science (AAAS) publication, there was a research report from Stanford Institute on the effect of consciousness in the material world. It reported the results of remote viewing abilities conducted by

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that institute between 1972 and 1979. Stanford Institute is one of the United States larger research centers with 1,500 researchers at the professorial level and 1,300 researchers, engineers and technicians below the professorial level. The scope of research involves physics, electronics, space technology, agricultural science, economic development and industrial economics, international development, defense analysis, emergency response and naval combat. That institute publishes reports of success in general research annually, but secret military and industrial research is not published.

That institute has a laboratory especially for doing research in remote viewing capabilities which strictly studies remote viewing phenomena. The subjects can also sense sounds, odors and even the existence of electromagnetic fields as well as describing from long distances the different shapes, colors and activity at the target site. This paper describes more than one hundred experiments by this institute with the following successes. Persons with remote sensing capabilities can obtain information concerning the target site from someone he knows at the target site. The longest distance has been 1,000 kilometers (sic) internationally (Chicago to Moscow). They can describe the shape, color, material and at times even describe the sounds, odors and electromagnetic fields with a degree of accuracy of up to two thirds. Spacial discrimination has been up to one millimeter. Spacial remote viewing experiments were also conducted on the Apollo 14. Astronaut Mitchell conducted this experiment. He himself is an avid follower of ESP and he has worked closely with Stanford. We have learned that they are going to conduct two more studies. One is to study the astronauts ability to predict man and machine systems and the other is predicting earth resources.

In addition to this, the United States Society of Parapsychology is conducting research in the following areas.

(1). The collection of typical reports. These reports are carefully studies. The society also has conducted research reports on "spirits" while investigating phantasm. In these controversial reports, phantasm occurs during a waking state about ten percent of the time. Most of the reported spirits appear during the same day a person who has died has been "seen".

(2). The other aspect is investigating psychics or spiritual mediums. Certain people claim the spirits place certain conditions on their activities such as a spirit guide. The most unforgettable was a "spiritual witch" who claimed to be able to communicate with the dead. When she was in a spiritual trance she did fully automatic writing which could accurately describe persons and events of which she could have no knowledge during normal times.

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2. THE SOVIET UNION.

From the twenties Professor Waxileyefu (translator's note: phonetic) has conducted research in Leningrad on mental telepathy and precognition. Karensiji (translator's note: phonetic) has also conducted similar research in Wukelan (phonetic). At the same time, at the Leningrad Brain Institute experiments have been conducted on the power of suggestion of man on dogs. In the fall of 1922, a power suggestion committee was formed at the brain research. Those joining included psychologists, physiologists, physicists, hypnosis doctors and philosophers. There they conducted experiments on the human psychological effects of thought suggestion and magnetic fields. In 1923, an engineer Karensiji (phonetic) joined this work and published a book entitled "The Transmission of Thought". In 1924 at the second All-Russia Conference on Psychology and Neurology a report was presented on this topic. At the 1926 conference a report was presented on "Long Distance Transmission of Thought" and two reports were given on the biological and physical basis of thought transference.

The Soviet Union has not formally joined associations or organizations of parapsychologists. These enthusiasts who conduct research on these phenomena at times are absorbed into the branches of other scientific and technical associations. In 1965 it organized a biological information branch directly under Moscow's A.C. Bobofu (phonetic) Radio Engineering and Electrical Communications Scientific and Technical Board of Directors. This branch's primary subject of research was thought transference.

In 1967 it organized a Technical Engineering ESP and Biological Awareness Branch directly subordinate to the Instrument Manufacturing Industry Science and Technology Association Central Board of Directors. Within the scope of this association, in 1968 and 1971, it conducted symposiums on the promotion of science and technology on biophysics effects. In 1971, it elected committees composed of the various departments to coordinate work on the question of biophysics effects. There were also other teams and individuals working in various enterprises and scientific research agencies. They conducted research during their work or during their spare time on parapsychology effects.

In other cities, research continued not stop on "skin vision" (also called the Losha Kulieshawa (phonetic) effect. After going through the results of numerous tests, the Soviet scientists unanimously recognized that the "skin vision" phenomenon actually existed. They also recognized it demanded serious research, but as for exactly what the mechanism was, there was at the present time no way to reach a clear conclusion.

Westerners estimate that the Soviet Union has two methods of research. One is high quality, systematic research which is officially approved. This is well funded and well organized (in the seventies, when a psychic from the Soviet Union defected to the United States, he provided

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information on this). There are also a number of "non official" labs which are allowed to conduct ordinary research which give the false impression of "poor quality operations". It seems that operations approved by the government are those which the results will be used in the military or secret police and are classified. The laboratories themselves are camouflaged, and may be subordinate to other organizations (such as a portion of military research labs or ESP hospitals). It is difficult to see through the camouflage, because Parapsychology experiments do not have special requirements for electric power, material supply or experimental equipment. The researchers may include psychologists, biologists, physicists, electrical engineers, educators, technicians and persons with ESP.

From published unclassified articles (almost one thousand scattered among various magazines) the impression is:

(1). A great deal of work has been done on signal extraction and calculation and on information theory in order to approach the biophysics signal transmission mechanism proposed by the Soviets.

(2). A great deal of reliable work has been done concerning static electricity in PK. There are indications that their work has switched to parapsychology of phenomena.

(3). They have monitored and measured long range control of biological indexes and have developed one or two new types of instruments. This type of instruments can hypnotize or induce certain desired biological rhythms to appear.

(4). Further research is being conducted in using parapsychology training methods (similar to biofeedback) to control biophysics information transmission mechanisms.

(5). They have studied many methods of differing degree of stimulation in parapsychology as a method to create changes in biological rhythms or states of consciousness.

(6). They have studied life auras.

In the applied aspects, the Soviets have also explored the following:

(1). Use of divining rods to find ores.

(2). Thought transfer from Moscow to Siberia and from land to submarines.

(3). ESP treatment of ailments, most influential were reports of Zhuna (phonetic) diagnosing the ailment of Bolieriniefu (phonetic).

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(4). The U.S. paper, the Washington Post, has revealed that the two super powers the United States and the Soviet Union are studying the use of ESP to influence enemy leaders, to force the leaders to make blunders or to sign at the negotiation table without due consideration. They are also studying the use of ESP to interfere with electronic equipment in the enemy's military strategic control system to cause them to malfunction, lose control or turn on themselves and self destruct.

3. JAPAN:

In June of 1976, the Japanese PSI Science Association was formed. The director is doctor of engineering Guan Yingnan (phonetic) who is more than 80 years old. The Psi Science Association "Study Book for Members" mentions parapsychology and science of the mind are both part of Psi science and are viewed as scientific phenomena. Psi science is a science which will lead the people of the world into a new era. In the past certain phenomena have been viewed as superstition such as thought power, X-ray vision, mental telepathy, the spirit world, spirits, gods, spirit phenomena, precognition, forecasting, yoga and meditation are believed by the Psi Association as things that should be studied.

This association currently has 800 members. The association is divided up into three groups, A, B, and C. The A group has about 300 members. It is primarily responsible for receiving research reports, publications. Most of its members are college professors or instructors. The B group is students. The C group are avid fans. This association publishes a collection of papers called "Psi Science" which comes out once a year. There is also a "Psi Science" magazine which is published monthly.

Research activities, from the viewpoint of the society are scattered. It is conducted voluntarily in spare time. In addition to proposing some hypothetical theories on parapsychological phenomena, they also do some observation of ESP and research into observation methods, physical nature, force fields and energy. They also do some observation of brain waves.

From looking at the association's publications, the following research is conducted:

1. A "sensing" instrument invented by Zhengmu Hesan (phonetic). Actually it is merely a magnet hanging on a fine thread. Iron filings are spread all over the top of a table, and then the formation of the iron filings in following the direction of movement of the magnet can evaluate a person's ESP abilities, especial remote viewing abilities.

(2). Pyramid effect with commercial possibilities. Make a pyramid out of card board, and inside there is a special effect of "reduced entropy".

3. Alpha wave chart effect. This is 40 windings of enameled wire

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with a diameter of 200 mm with the N terminal toward the body connected to a four to 20 hertz pulse generator. At eight to 12 hertz it can treat ailments, improve memory, creativity and induce ESP. If a QIGONG master puts on this coil, he can release external QI without any loss of energy.

4. Auragas. In the early morning hold the left hand up toward the sun for 20 minutes, and in 200 days it will product Auragas. It is said that after doing this, five or six people developed the ability to tell the future.

In general, the experiments are only at the general level. However, what cannot be ignored is that the prime minister has mentioned that the new research plan for somatic science research is preparing for investing 50 billion U.S. dollars for research. Details of this plan may have to do with ESP.

V. MAJOR PUBLICATIONS.

1. GENERAL

Parapsychology research publications are sold in various countries. These magazines are generally distributed as follow:

United States: Over five types

England: Five

Italy: Six

France: Two

Holland: One

Japan: Two or more

In addition, various scientific publishers publish large amounts of special topic books and summaries of conferences and symposiums.

Materials concerning parapsycholog are widely published in Life, Look and Star magazines. At times prestigious magazines such as Science and Nature also publish them.

Although the Soviet Union does not have a special magazine, such magazines as "Technology and Youth", Young Archaeologists" and "knowledge and Strength" have published 500 such articles between 1963 and 1973.

2. Major Magazines and Books.

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- [1]. JOURNAL OF THE SOCIETY FOR PSYCHIC RESEARCH, more than 70 papers.
- [2]. JOURNAL OF PARAPSYCHOLOGY, more than 60.
- [3]. JOURNAL OF THE AMERICAN SOCIETY FOR PSYCHICAL RESEARCH, more than 80.
- [4]. JOURNAL OF PSYCHOLOGICAL RESEARCH, more than 40.
- [5]. PARAPSYCHOLOGY REVIEW, almost 20.
- [6]. JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY.
- [7]. JOURNAL OF DEATH AND DYING.
- [8]. JOURNAL OF THE ASSOCIATION FOR THE STUDY OF PERCEPTION.
- [9]. PSI RESEARCH.
- [10]. EUROPEAN JOURNAL OF PARAPSYCHOLOGY.
- [11]. JAPANESE JOURNAL OF THE PSI ASSOCIATION
- [12]. JOURNAL OF INDIAN PSYCHOLOGY.
- [13]. PARAPSYCHOLOGICAL JOURNAL OF SOUTH AFRICA.
- [14]. AUSTRALIAN JOURNAL OF CLINICAL HYPNO-THERAPY.
- [15]. PSIKOLOGICHESKII ZHURNAL.
- [16]. RASSEGNA ITALIANA DI RICERCA PSICHICA.
- [17]. NEW IDEAL IS PSYCHOLOGY.
- [18]. PROCEEDINGS OF THE SOCIETY FOR PSYCHICAL RESEARCH.
- [19]. PERSONALITY AND SOCIAL PSYCHOLOGY.
- [20]. ANABIOSIS.
- [21]. PERCEPTION.
- [22]. SOCIAL SCIENCE INFORMATION.
- [23]. PROCEEDINGS OF THE SOCIETY FOR PSYCHICAL RESEARCH.

In summary, there are a great many publications in this area, and from what we have learned, almost one hundred books were published in 1976

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in the United States alone.

Even though China's somatic science has from the beginning taken Marxism - Leninism and the thought of Mao Zedong as its guide and maintained dialectical materialism, and is on a much higher footing than foreign countries, and is clearly different in certain scopes of researches, especially some which are tainted with idealism and mysticism, but in certain specific experiment design and the crooked paths they have taken and lessons they have learned can be used to guide us. And we can take these into consideration in our work. We hope that in the future there will be someone who will do the special task of studying what foreign countries are doing in this field. At that time a more detailed introduction will be possible, and from this standpoint, I hope that this article will attract more people to do this.

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SOVIET STUDY OF HUMAN SUPER PERCEPTION (CONTINUED)

TRANSLATED BY: Li Huang

Extracted from the speaking notes of visiting researcher Doctor of physics Liemianqinke (phonetic).

"The scope of our research may best be said to be radio thermal detection technology, which is the measurement of the internal temperature of the various organs through radio radiation. We know that a heat generating body gives off a wide spectrum of electromagnetic waves, and living organisms give off most of their radiation within the infrared spectrum range. However, within this wave spectrum there are also secondary lower frequencies (also called secondary long waves) as components. These include radio waves. Actually, only these radio waves are able to actually indicate the internal temperature of the organ. This is because this type of radiated wave can pass through our bodies. The intensity of radio waves can fairly accurately record and display temperatures at a depth inside the body of five to six centimeters from the surface or at close range, and the nature of a change in temperature at any internal organ or any location inside an organ can indicate an internal ailment.

What is a radio thermometer?

From the overall external shape, it is a small antenna and a highly sensitive receiver. The information it receives is immediately sent to a computer where it is processed. I should point out that the electromagnetic waves it receives are very complex and impossible to analyze manually. Therefore, the antenna is not even called an antenna, but is called a radiation receiver.

Then, what frequency range of radio waves do you measure?

Within the centimeter range, specifically at 1, 2 and 3 gigahertz corresponding in space to wave lengths of 30, 15 and 10 centimeters. In human tissue organs capacitance is higher than in space, so the wavelengths are markedly shorter, about 5, 2.5 and 1 centimeter.

This is several thousand times longer than infrared waves, that is to say, when you are operating within the ultra high frequency radiation range you must also record very weak radio signals.

Actually they are extremely weak. This is ten magnitudes (about ten billion times less) less than skin infrared radiation. Actually, the radio radiation we have been able to record is between ten to the power of minus twelve and ten to the power of minus sixteen volts, corresponding to a temperature change of from 0.1 to 0.3 degrees.

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It would seem that it would require the manufacturing of an instrument with extremely high sensitivity.

Fortunately, this has already been successfully manufactured. We already are using a highly sensitive receiver. This type of instrument is also used in radiation radioastronomy, because they also need to receive and record extremely weak radio signal. Research into radio thermal radiation of organisms first began in Gorky City's Radio Physics Institute. This research was lead by the famous astrophysicist and member of the Soviet Academy of Science Communications Academy, Teluoyizije (phonetic). This research group is still foremost in the field of radiation surveying.

You said that it required three frequency spectrums to conduct measurement, do you mean to say that it is not enough to use just one.

By comparing the changes of several frequencies, we can accurately determine at what depth and at what level the measured temperature is. Then, the lower the frequency (longer the wave length) the deeper the location we can measure the radio radiation. For example, at a temperature of two gigahertz, it is possible to measure all radiation at a depth of 2.5 centimeters below the skin. If the frequency were one gigahertz, then we could measure at a depth of five centimeters below the skin. If we subtracted the results of the first measurement from the results of the second measurement, of course this is very complicated (with a computer it is much faster), then we could obtain the power of the radio radiation, that is to say we could measure the temperature between 2.5 and five centimeters below the skin. In principle, if a multidirectional (curved surface) antenna is used, one frequency can be used to change the depth measured. Naturally, in the conditions in reality are much more complex that we are discussing here. But just as everyone has said, the important thing is the results, and we have already successfully accurately measured any thermal layer we wanted using the centimeter range.

Then if you have solved the problem of the level of testing, what level of discrimination of the measurement point have you reached?

This depends on the wave length and the characteristics of the curve of the antenna. In actuality we can successfully measure changes in temperature in the three to 14 centimeter testing range. This is very useful, for example in the kidney it is possible to discriminate a number of different temperature zones. In the past, biologists and doctors did not have this capability, and they wanted to discriminate, the only thing they could do was to use surgical methods and insert a probe, and these methods often resulted in objections from the patients or were impossible to accomplish.

Has radio temperature measurement been put to practical use?

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We can say that we have already seen the future for applications. What we are doing now can be considered to be the first step. For example we have already conducted preliminary research in the dynamics of the temperature changes within the abdominal cavity. We have also done research on the periodic changes of temperatures deep within the brain. We have discovered that there are interesting characteristics to sleep, such as undulating temperature shifts which occur during deep sleep which are extremely close to that of a sine wave. During sleep, the deep portions of the brain averages almost one degree lower. However, when dreaming, the temperature rises again. At times it even reaches the temperature of the waking state. When someone is wakened, it takes some time for the temperature level to reach that of a waking state. During normal sleep, we have not been able to observe any marked difference between the temperatures of the left and right hemispheres of the brain. In hypnosis induced sleep, the temperature of the right side of the brain is almost one degree higher. In summary, the changes in the temperatures within the brain are very complex and require further study. At the present time, we are working together with the biologists at the Railway Health and Sanitation Research Institute to develop research work. They are conducting research on the states of engineers and drivers and controllers, or that is to say people who could come up against an accident at any time. Some people can go to sleep without being aware of it. When this happens to a driver, there is no way to avoid a nasty accident. By detecting that the brain is about to enter a sleeping state, it will be possible to take steps to prevent it, and using radio temperature measurement instruments may be able to take these measurements. In addition, we are also jointly conducting hypnosis experiments with the Soviet Ministry of Health's Psychological Treatment Center.

As for one person using radio radiation to cause a reaction on another person, have you considered this?

Our bodies' radio radiation is too weak to have a therapeutic effect, it must be magnified hundreds of millions of times in order to achieve a level where someone can sense it.

The following were further extracted from several magazine articles at that time.

"Do you need some facts which have been tested? It is a radiation phenomenon unique to living organisms - the Jilian (phonetic) effect. Why do you not consider this to be a biological field?

You need not use this effect to create confusion. This is a type of chemical material luminescence phenomenon of biological activity manifested on the skin. It can also be manifested on green leaves or even that table top where leaves have been placed."

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"The primary source of pseudo science is insufficient knowledge and ignorance. The authors of pseudo science articles may be completely ignorant or may be a specialist doing something in another field about which he is completely ignorant. Within the ranks of pseudoscience one can come across a wide range of things, and people with this type of psychological attitude, from confident dreamers to sham artists and frauds."

"You are a lily said the hypnotist to his subject, pointing to a flower sitting on the table. The girl who was the subject nodded her head, she believed the change had taken place. From the instrument recordings, one could see the flowers began to undulate excitedly. and the flower he had pointed at which the subject saw as herself began to shake even more. On the display screen, that lily oscilloscope wave oscillated strongly, as if there were a gale."

"How can you believe in these ignorant super sensitives?"

I feel that they may be able to offer something.

"They probably cannot supply a little warmth, but even this little warmth, if it is used indiscriminately, could cause harm."

"Did you hear that they have discovered a physical field which can see into the human body. This is really a revolution in medicine!"

It is an interesting ability, but why is it so mysterious? Look at what has happened in other fields such as the gene splicing in DNA, layered X-ray photography can look at "layers" of any organ. And look at the research in cancer immunology and the mathematical model of the heart. Then, you say a physical field has the ability to see through the body, is this not just a small portion after all?"

"We should unlock the mysteries of the crystal biological field, especially the mysteries of the crystal biological field which have therapeutic effects."

"A lot of you readers probably remember that Zhuna (phonetic) admitted not long ago that she did not have any special powers, but when she was treating diseases she used skin contact massage and massage maintaining a certain distance. It was only when it was used in combination with other treatment methods that it had any effect."

There is a principle widely used in philosophy to alter our understanding, like toward such phenomena as remote viewing and psychokineses, it works if you believe, if you do not believe, it does not work. It is of no practical significance in the natural world."

In scientific research including biology, for many years they have

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been using remote sensing thermometers which can measure the surface temperature of an object. It is a kind of infrared radiation receiving apparatus. In recent years these types of remote sensing thermometers have been highly perfected. Especially with the appearance of thermal imaging equipment which can directly display a picture on a screen using different colors to represent different temperatures with a temperature detection sensitivity of 0.1 to 0.2 degrees. In principle, thermal vision imaging effects have a lot in common with television. There are also frequency sweep type temperature images which similarly are picture after picture which appear on a fluorescent screen (at a rate of about 25 per second) to form a stable continuously displayed image. From this it is possible to see the dynamics of the process of temperature changes, and supply high quality new information, and they contain no errors.

Wasn't this type of equipment manufactured in the past?

Do not be surprised, although the technology itself is no obstacle, it was not manufactured. Thermal imaging systems work like this. The thermal image signal is also one picture after the other entered into a computer's memory equipment, and then transmitted out from the memory storage equipment at the required frequency. It forms a picture of the process of temperature change. Also, another processing method can be used to display the blood flow in the blood vessels below the skin. This achievement immediately attracted an extremely great interest from people from oral surgeons to neurosurgeons, because the surface blood flow carries a great deal of information concerning the process of different changes inside the body and switching from a quiet state to a dynamic state.

How much memory is required?

That's just it. Because each picture requires 64 sweep lines (for thermal imaging this is enough), the memory required is 4,000 bytes (computers binary code unit), and for 100 pictures it requires 400 kilobytes. This is the capacity of intermediate model computer storage. Currently used thermal imaging equipment have the capacity for 500 picture display.

Dynamic thermal imaging technology has created new possibilities in studying the activity and capabilities of the brain. This new application is the result of joint cooperative research by a group led by the Soviet Union Academy of Sciences High Level Nerve activity and Nerve Physiology Institute's doctor of biology Kuziniezoufu (phonetic). Preliminary experiments successfully observed the thermal wave distribution in the brain of a rat. This is an extremely pretty picture, and furthermore, the sensitivity can be further enhanced.

May we believe that thermal imaging equipment sensitivity is almost the same as the sensitivity of the hands of a super sensitive?

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The capability (sensitivity) of dynamic thermal imaging by computer systems is 100 times more sensitive. After all, thermal imaging equipment can also display detailed images, in this aspect hands cannot compare.

These have been extracted from several magazine articles from that time:

"There is no reason for us to oppose your super sensitives. Let them keep on making fools of boys and girls. Let them go on talking about such things as thought forces can transmit information and move objects. This is very interesting to listen to. However, we must not let them stick their hands into medicine, must not allow them to touch those unfortunate patients, because they are not able to provide any actual help to the patients, but can cause the patients to have blind optimism and fantasies.

You do not have enough of a basis for "opposing", just as you do not have enough for "approving". As for the fantasies you spoke of, sometimes they are beneficial.

When you have chronic appendicitis, give yourself the fantasy that you can fix everything yourself, however, do not forget to have us bury you."

"One person says one thing and another person says something else. We know this is quackery, but from another viewpoint, people all say it has helped them. Doctors should write it down and do a physical examination in order to clarify just what is what.

But we should not abandon our own affairs and go study and investigate different murky phenomena.

Excuse me, this is inappropriate pride, we have already wasted thousands of peoples' time trying to convince people this is impossible, and only using a few days time it is not possible to analyze and resolve the essence of the problem."

The human hand can give off certain kinds of mysterious forces. We already have heard of people who have seen with PK with their own eyes. One woman super sensitive used the biological field of her hand to move objects.

There is nothing mysterious about this. No one can use the biological field of his hand to cause an electric iron or a water glass to move, and to cause relatively light objects to move without touching them only requires static electricity. There is a college student studying physics who demonstrated this while doing his homework and conducted a practical experiment, he used the static electricity in his hand to cause a ping pong ball to roll across the table."

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Extracted from the notes of the speech by visiting lab director and doctor of physics Gejike (phonetic).

"All living things are like living self regulating systems. In the process of life activity, it can leave complex physical fields and infrared images within the photoelectric wave spectrum behind in surrounding space. Furthermore, around the biological entity there can be generated a special gas with chemical components. The changes in space of all such information can, if reflected in time, be called the "voice" of the biological system (including the self regulatory system of the living entity). Therefore, after recording and analyzing external physical fields and radiation, then there is the possibility of evaluating whether or not the indices of the organic state are normal and to proceed with a diagnosis, predicting the possibility of disease. realizing this possibility is one of our primary tasks. Therefore we have set up a laboratory, and within a short time have filled it with measurement and calculating comprehensive equipment which can collect all the information from the seven channels we mentioned earlier and can display this information digitally. After this has been analyzed and processed by a computer, one look makes it clear. We call this process biological information science.

The collection and processing of biological information, including the study electrical fields, magnetic fields, and thermal fields, has begun to be carried out in a number of areas, so what is so special about your research work?

It should be evaluated from another angle. There is a characteristic which is not a bit unclear, that is the collection and analysis of information by different channels. That is making every effort to obtain activity images from each different physical field and radiation, not just evaluate a single point. In addition, we are working to analyze the mechanisms of a great deal of research processes. I believe, because of this, that we have been successful in uncovering several interesting phenomena which take place on the surface of the skin. Some of these were studied a long time ago, such as the measuring the thermal flow from the sensitive (erotic) points on the skin.

Another primary task is to use weak physical field information to find the possibility of adjusting biological states. It is because the information is weak that we can say it is different from such physical treatments and traditional high power treatments. It can greatly enhance the sensitivity of receptors, and the adaptability range of the monitoring and control function of the organism's regulatory system will become even broader. Adjusting and monitoring and control are interconnected.

Perhaps it is just because of this point that super sensitives are successful at times.

We can say this. The successes of super sensitives are not

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investigated in enough detail at times, and as we know, no one is thoroughly familiar with technology, like our research operations in our lab, it is very difficult to accurately estimate certain therapies and the one to properly estimate therapy should be a doctor. Unfortunately, they have not studied this problem.

We have already come to the time when we can come up with some minor conclusions, or we can return to the primary problem. Can physical fields actually treat ailments. First it was thermal fields, super sensitives may not have been aware themselves, but it is very possible that they were using thermal fields to diagnose and treat ailments. It seems that it is of no major significance to discuss this question today. Since "developers of the biological field" all strenuously deny that it can cure ailments, and the broad masses naturally are not so enthusiastic. Then we cannot maintain this type of enthusiasm just by relying on the hopes of the onlookers.

The human body is a complex machine. It also has several mysteries which we must discover. At the present time we still cannot shout: "I have discovered it, glory be!" We still should listen to what other scientists in the same field are saying. Science also has its own who do not cooperate, using their own methods and steps they do their own thing, and use a certain method to differentiate truth from falsehood. However, people do not now have enough methods and abilities to conclude "there is a biological field" or "biological fields can cure ailments". We strongly believe that it is only through the test of scientific practice that it can become truth. We must still return to the question of "whether or not can it cure ailments". This is the major principle. Physicists use precise experimental demonstrations, our skin can sense minute temperature changes, even several centimeters away. It is completely possible that if small amounts of temperature information reach a cold generating spot, it could have therapeutic effects. However, to go further and say exactly what the mechanism is, is impossible at the present time. Nor is there sufficient experimentation, and doctors can only speak based on reality.

We can only reach a simple conclusion from what was said. Biological bodies do not have any mysterious matter which has been much theorized. However, biological bodies do have several basic physical fields which have been accurately recorded, and thorough research has been conducted on these weak primary physical fields. These physical fields are: magnetic fields, static electricity fields, thermal fields, sonic fields, and radio radiation fields. Therefore it is possible to obtain extremely significant information from these fields. To generate a number of new diagnostic methods and study their use for therapeutic goals on this basis naturally also requires scientific testing. We strongly believe that lies will become truth and super sensitive abilities will in the end become the most effective treatment method in the hands of the doctors.