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This document presents possible ways in which Permanent Education in France could develop, based on experiments and research carried out at the Centre Universitaire de Cooperation Economique et Sociale (CUCES) and at the Institut National pour la Formation des Adultes (INFA). Part one includes the following: the good to be had from continuing education (social and functional); the need for the teacher to move with the adult; the advisability of relating training to daily life to make it meaningful; the observation that within an institution, top level personnel must be trained if the training received by the subordinates is to be fruitful. Included are reports on programs run by the two organizations; and stated is their aim to investigate adult education and youth education as part of one permanent, continuing process. Part two deals with research at the "CUCES-INFA" Complex in 1966-67. Part three views the training of adults as dependent on the process of socialization that society sets in motion, and therefore attempts to examine its permanence. (nl)

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FIRST PART :

CONSIDERATIONS ON THE DEVELOPMENT OF PERMANENT EDUCATION

Ayo OGUNSEBIYE

We shall not try to present here an exhaustive study of all the problems related to the education of adults and even less to those of Permanent Education. The object of these few considerations is to make the reader more aware of the complexity of a problem, the importance of which is generally acknowledged, but for which only outdated solutions are often proposed nowadays.

We shall present several assumptions on possible ways Permanent Education in France could develop, based on experiments and research carried out at the CUCES (Centre Universitaire de Cooperation Economique et Sociale), University Centre for Economics and Social Cooperation, and at the INFA (Institut National pour la Formation des Adultes), National Institute for the Training of Adults.

To keep this document brief, we shall just state our present ideas without going through the history of the evolution from which they have sprung. Consequently we would suggest an instantaneous image, "a geological cross-section", entailing at least two disadvantages : firstly, the text loses of its clarity ; secondly, it seems to state definitive truths. We would like to stress the developing character of the ideas stated here. They are mainly assumptions which differ from those we made only a year ago and even so than those we shall be proposing in a year.

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For quite a time now educational problems have become a general concern. Even the press has started mentioning the problem of education of adults relating it to economic problems. Some expressions, unfamiliar until very recently, are now being very widely used : social promotion, cultural promotion, individual or collective promotion, promotion of women, partial or full, internal or external reconversions, refresher courses for executives, doctors, professors, etc... reform of Elementary, Secondary and University teaching ; reform of the Grandes Ecoles, of the professional training of adults, creation of the Maisons de la Culture, of a statute of Cultural Animator, law on professional training.

The need for social change is being acknowledged ever more widely in the world today, raising one of the biggest problems of modern times. Clearly, the entire educational system is subject to a series of doubts and accusations and it is no accident that the recent seminar held in Caen caught the interest of the general public. In this field we are now witnessing two factors which should be distinguished one from the other before stressing their considerable interdependence.

- The education of adults is being accepted as primary economic and social need ; it is as striking in its importance as in its specificity. While some people must still fight to obtain both the right of adults to education as well as the means of receiving it, this necessary fight appears to others as a rear-guard combat : the right has become a need

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and the need has become a law.

Although these vital necessities are being recognized more and more widely, they will be assuming in the future proportions which are as yet under-estimated, and in face of them the great danger is undoubtedly to come up with answers which from all standpoints (institutions, methods, and contents...) would be lagging behind actual needs and possibilities.

- Permanent Education will be the direct and necessary consequence of the new-born system of the education of adults. Much too often the word " Permanent Education " is used as a synonym of Education of adults. We ourselves have made this mistake at the beginning of our research in this field.

The education of adults must not become one more system added to the existing ones or just a simple extrapolation or after-sales servicing, based on existing practices. A specific system adapted to the various needs of adults should be created, these needs becoming more and more diversified with the increasing number of adults concerned.

But this new system of the education of adults questions all the existing educational systems. To talk about a reform of the schooling system means already nothing ; the whole system must undergo a great change within the general frame of a Permanent Education. Pedagogy and andragogy (this word, used in some countries, expresses the concern for finding proper methods for training adults) can only be thought of in the framework of Permanent Education.

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I PRESENT STATE OF EDUCATION OF ADULTS

THE THREE AXIS OF ADULTS' TRAINING

The training of adults may appear under many very different aspects. It is difficult to classify them and to choose the criteria for their classification. Should we take into account the nature of training (professional or rather general), the moment when this training is given (daytime or evening), the character public or private of the training organisations or any other criteria ?

We can however differentiate three essential aspects of the training of adults :

- Education in socio-cultural environment. This is mainly the case with popular educational leagues which are in a way the pioneers of Permanent Education. Most groups involved in this field have committed themselves and insist upon maintaining a large autonomy. They are a guarantee for a living democracy and the responsible agent for the training of citizens ; they live and "think" the problems set by a civilization of leisure. Fascinating experiments, some already existing have been carried out in the Scandinavian countries, in Germany, in Great-Britain, in the U.S.A., in the Eastern block countries and in France.

- Education in socio-professional environment starts with daily-work problems and is based upon them. This training is always ^{taken} upon by the environment itself. We shall not insist on this category of educational actions, as it will be the object of many developments based on experiments carried

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out by the CUCES and the INFA.

- "Post University" education is taken over by teachers or Educators, contrarily to the two others. Its object is most often to up-date knowledge, to "refresh" it. Since a few years, it has become extremely important in some countries. Thus, in the U.S.A., the number of people participating in these training cycles through evening school is as important as that of children and adolescents in school. In the U.S.S.R., a similar trend is appearing and a very large number of adults are attending refresher courses, either in the evening or in day classes.

In this field the situation in France is not satisfactory, either as to the real needs or as compared with that in neighbouring countries. Although important efforts have been made during the recent years, the delay is still very large and this is why a new law on professional training has just been promulgated. This law will be a new step forward inasmuch as it will allow everyone to choose his own profession and to decide whether he wants to change it, helping thus the development of man. But Permanent Education requires a real change both at the level of contents and at the level of methods.

Before analyzing certain characteristics of this change, we must try to find the elements and the ferments that favour Permanent Education, and a necessary evolution.

II WHY A PERMANENT AND SYSTEMATIC EDUCATION OF ADULTS ?

FERMENTS FOR A NECESSARY EVOLUTION.

We find at least six fundamental reasons for developing

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the permanent and systematic education of adults. We shall explain them here, without any idea of priority.

- If we do not agree on the fact that training must not be interrupted, how will it be possible to train young people over only a few years while programs are becoming heavier and heavier ? To give a methodological training allowing to obtain at the same time a high degree of technicality, a very severe choice among subjects must be effected. If this condition is not fulfilled, the programs, even with years studies, will be so heavy that information will be substituted to training.

- A second raison is the necessity of acquiring new knowledge without losing those already acquired. We must stress the fact that if certain notions are never "utilized", if initial training is not valorized the adult can lose the quasi totality of this training. Inasmuch as one never reads, his ability to read may be limited to the reading of words, of phrases, without any possible "exploitation" of what has been read. If adults never have the opportunity of using notions of arithmetic they have learnt, they will forget them. The same happens with any learnt matter. If refresher courses are limited to bringing new knowledge, their aim is very limited. Refresher courses must also integrate past knowledge and bring new one.

- To these two fundamental reasons, we must add the need of so-called Social Promotion. In its essence, this social promotion enables men, who had not had the opportunity to continue their studies, to resume these studies and thus to reach all

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levels of hierarchy.

- But beyond this social promotion there is the so-called function-promotion which is a fourth reason for developing Permanent Education. With these words, function-promotion, we mean the possibility for every man and woman to adapt himself constantly to a new profession. It would indeed be purely demagogic to allow some people to climb the degrees of hierarchy if at the same time all men and women are not permitted to become adapted to their own functions. (The word " to adapt " must be understood : "to be able to go beyond", and not as an indication of submission).

The importance taken by function-promotion brings us to the ever-growing phenomenon of reconversion, as shown by an I.N.S.E.E. (Institut National de Statistiques et d'Etudes Economiques) survey, a very important percentage of the French population goes every year through professional reconversion, and this trend will grow until the real social problem of to-morrow becomes that of reconversion. As long as adults will not know what profession to turn to, or what will be the choice of professions, only a process of Permanent Education can solve this problem, a process preparing men both for more than one profession and for an availability to change.

- The fifth reason for a Permanent Education is related to the problems of communications between beings living within a Society : every one must be able to reach a more complete understanding of other peoples' opinions :

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- . communications between parents and children. If the former want to understand the latter's language, they must go on learning and training.
- . communications between "Seniors" and "Juniors". A 35-year-old engineer does not talk the same language a 30-year old one does.
- . communications between groups having different centres of interest, so as to have a better understanding of activities different from their own.

In other words, we must concentrate our attention on every man's right to a personal culture. This is becoming all the more important since the increase of leisure will impress upon every democracy to offer, to all who desire it, the possibility to train during their spare time.

- Finally, the last reason we shall mention here does not correspond to an objective fact but to our ideology in considering man as a factor for change and, more particularly, as the man responsible for his own change.

Thus, to make possible the education of the young, to allow men to adapt themselves to new professions (whether these be new professions or result from the evolution of existing professions), to allow them also to rise hierarchically, to develop their personal culture, to give them the means for a larger part in the management of affairs that concern them, such may be some of the essential objectives of the training of adults, which must be understood as a specific education ; but, as we shall see, specificity is also to be found in a real new pedagogy we have already named andragogy.

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III ANDRAGOGY

Why are there methods specific to adults and what are they ?

At the present moment, in France, the content of teachings given are identical, whether they are intended for adults or for youngsters : the teachers are the same (they teach adults in the evening), there is only a slight difference in the teaching methods and sanctions.

This great resemblance is in fact explained objectively : facing the girth of the new problem - the training of adults, and because of the delay of the period 1940-1950, the easiest, the simplest way was to utilize the existing men and means. However, this reason is not the only one. It has often been said, especially as regards the promotion, through work, that it was necessary to avoid the "racism" resulting from a distinction made between adults and students. It is often believed that what has been thought of for the ones is also good for the others. We refuse this line of thought, because adults have characteristics different from those of young people ; we think that refusing to see these differences, not distinguishing between adults and students (especially for school competitions and examinations), is really an encouragement to the development of racism. Indeed, the most important principle in the field of pedagogy, is that of communication between the learner, the teacher and the knowledge. Education must start with the person to be trained and adapt the method to her characteristics.

Present pedagogy is very often collective : it works anonymously, it does not take into consideration every individual and his very own characteristics. So the final outcome is to make every one work without the others and for himself (emphasis is put especially on selection). On the contrary, pedagogy should be individual, which means it should take every one into consideration, valorizing simultaneously collective work and mutual education. As for adults, this is all the easier to do as adults are prepared, through their daily experience, to work in teams.

Before considering a few characteristic features of adults, we must however stress that we do not seek to contrast youngsters with adults. There is no real discontinuity between young people and adults, and still, people that have left school since five years have characteristics that are already quite different from those of pupils or students.

a) Adults' characteristics

Our aim is not to make an inventory of all those characteristics, but only to consider those which presently, seem to us to be the most important in this field. They have already been analyzed by several pedagogues such as Messrs VATIER, HASSON, etc. and by the sociologists such as M. DUMAZEDIER, or researchers from the C.U.C.E.S. and the I.N.F.A., and they are or have been the object of many publications.

- Adults motivations for training. They are often many, and because of that it is not always easy for a group-leader or a trainer to take them into consideration. One of the most frequent

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motivations, at least outside the category of adults who follow a training of the socio-cultural type, is the QUEST for a change of the social status. It is not only a betterment of the salary which is looked for but, at least as much, a change in the kind of work that will allow a development of the personality.

Nowadays, one more motivation appears and it is : not to "submit" to a downgrading reconversion, but to be able to carry it out by oneself.

Useless to say, these motivations cannot exist, at least under this aspect, with the young.

- The representation of training. Some adults imagine training, "culture", as an "asset", which means that they consider they are "over" once the training, or rather the "program" is over. Moreover, they tend to mistake training for knowledge, knowledge for "by rote", never being aware that the essential part is training to ATTITUDES. To know would be to be able to recite "by rote". Learning is sometimes a "physical" effort. For some people, to train consists in "being present" at a training.

- Difficulties of learning. An adult often finds it very difficult to start again his training, - especially when he has stopped his schooling very early and he is the very one who most needs going back to school. He can neither read easily the documents that are shown him, nor take notes, nor "listen", nor exploit the means put at his disposal.

Besides, since the training takes place in the evening, it is obvious that most adults meet enormous difficulties, (lack of time, physical or nervous fatigue, lack of relaxation, of leisure).

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- Representations of the outside world. On this level, the adult differs greatly from the youngster. If his professional, family and social experience are often indicated by a better knowledge of certain phenomena, there is also often a downgrading of knowledge through forgetting, or even through the assimilation of partial and very inaccurate images of the phenomena around him : his findings are almost always based upon "effect" and not upon cause and "essence".

Of course, it is the same with children, with the difference that a great many of them do not even try to imagine their surroundings. Children, for example, admit they do not know what "atmospheric pressure" is, or how and even why a plane can fly, while it is probably rare that adults have no "ideas, or representations" on the matter.

Research has been carried out on this problem at the Centre for Studies and Research of the Ministry of Labour, and at the C.U.C.E.S. They have shown that these images are often so deep-rooted in the minds of some adults in training, that it is very difficult for them to assimilate new knowledge, because they cling to their representations even when they are belied by reality. For example, chemical workers describe an acid as " a body that stings ". For metal-workers, tempering is " something that makes metal shine ".

The only pedagogic method that helps go beyond these representations and bring new knowledge is to take these representations as a basis and discuss them in a group. This item will be the object of later developments.

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THE ADULT AS A FACTOR FOR CHANGE

To the extent that we want to consider the adult as a factor for change, as someone who receives from, as well as gives to, his environment, the pedagogy employed must be different from that which is used with children. The latter are in school to receive, but they give nothing to anyone.

b) Suggestions for pedagogical answers to the characteristics of adult audiences :

It seems increasingly important to determine the contents of teaching according to the needs as they are defined by the persons in training (trainees) and not as defined by the teachers (trainers). This is a basic pedagogical strategy. It supposes on the part of the training institution a right to adapt its programs to the results of the analysis of needs. This is practically impossible in the case of social promotion courses leading to diplomas, as the latter most often refer to examinations based on programs defined by national authorities.

However, even when this is not the case, when programs are not defined a priori, when teachers enjoy the broadest freedom, the problem is not all the more solved. Indeed, to eliminate stereotypes, to make adults discover their need for training, it is necessary to put them in a situation where training is possible. The best training is but a transformation of unfelt needs into felt needs. For instance, for an electrician, a training in electricity will only lead to his vocational development if he discovers that it is necessary for him to understand and to be acquainted with certain laws. Based on examples, it becomes necessary for him to go beyond the concrete to reach the concept, then he has to learn some mathematics -and while doing so, he discovers

the problems of expression, and so on. It is this dynamics which place the adult in a situation of real training and of permanent and authentic education.

This raises a difficult problem for the teacher who often, during the day, teaches children following traditional methods. The teacher must, at the same time, make an imaginative effort and remain open to adult progression, in other words, he must fight against his own tendency to foresee this progression beforehand.

- PRESENTING THE TRAINING

To fight against the frequent tendency of adults to boil down the training concept to the acquisition of knowledge, the methods applied must allow more room for reflection than for the evaluation methods which require modification ; the existence of examinations must be re-examined. There are many reasons for this :

- . One way to justify examinations is to say that they are an incentive to the student. By attending evening schools, adults give ample proof of their will to work and for self-improvement and examinations, as an incentive, are no longer necessary.

- . Examinations have a paralyzing effect on the adult. He becomes anxious in the face of this one test which will sanction his past and determine his future. Quite often top he feels disconcerted when in front of the white sheet he has got to fill. Under these conditions, the examination loses its power to sanction knowledge.

- . The prospect of an examination will increase the feeling of dependency in the adult, whereas it is independence which is the objective.

- . The examination, factually and psychologically, favours teaching courses culminating in an examination, to the detriment

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of other courses emphasizing personal development. In our opinion, the latter are nonetheless essential as they allow to establish a link between the adult's school work and his experience.

- The examination strengthens the scholastic attitude, whereas the adult, in order to learn needs to relate knowledge and experience constantly. To establish this relationship, it is necessary to have a way of tackling the subjects studied and a working rythm which are, in effect, incompatible with the pressure stemming from the existence of the examination.
- The importance of the examination in our society must however be noted. The desire of seeing examinations sanction one's training is thus very understandable since up to now, this has been society's only method of evaluation.

In the principle of doing away with examinations is accepted, it is only natural to set up a permanent and systematic control of the assimilation of knowledge and also of the skills. This is a touchy problem which has been the subject of much research within the C.U.C.E.S. The conclusions and consequences drawn by us from this research have led to the creation of what we call " self-evaluation ". After each teaching and practical training session, all the participants go through a written examination dealing with a simple question. Once the examination is over, the professor gives the answer and explains it in details. The participants are then asked to correct their own tests, not by grading them, which would be absurd, but by striving to analyze their errors, the causes of these errors,

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and their nature. The professor gathers all the copies which, it must be stressed, are anonymous, since the object is not to judge the pupils individually but to help each one to correct himself. The professor grades the examinations and the self-evaluations, then returns the copies to their respective owners. Thus, each participant has the possibility not only of knowing the answer, but also of finding out his appraisal and correction errors, and of knowing how the teacher himself would have answered.

However, this self-evaluation does not eliminate evaluation by the teachers of the participants' results. This self-evaluation is proceeded to especially within small groups so that continuous comparison be possible between the teacher's and the pupil's evaluations ; this is the essential pedagogical act.

If we consider the adult as a factor for change, then self-evaluation is an essential part of his training. In effect, it is essential that he questions himself and realizes that he has broken away from his knowledge.

- PRESENTING THE PHENOMENA

The obligation of not basing training on formal courses and of not using traditional text-books, has likewise led the C.U.C.E.S. to often entirely re-examine and revise the training methods.

The principle of training by conceptualization was the first to appear. When he speaks, the teacher uses words and expressions which though precise, generally mean nothing to the adult. For instance, the definition of proportional magnitudes

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is : " two magnitudes can be considered as proportional when the quotient of any value of one of them to the compound value of the other remains constant " . This definition is hard to understand, or more precisely it is easy to grasp if every word, every expression represents for the learner a well-known concept. Inversely, it is incomprehensible to all those not yet acquainted with these concepts, or precisely, to all those who are trying to assimilate them. To be sure, when a teacher gives this definition, he illustrates it, but the definition still remains abstract as it consists of a group of terms which the learner is unable to represent in his mind's eye.

In this case, how is it possible to remedy this insufficiency ? The method consists in having a group of adults " discover " the concept to be defined. Taking the case of the proportional magnitudes, the teacher gives one or two examples (a plane covers 1.000 kilometers in one hour, 2.000 kilometers in 2 hours etc...). Based on these examples, the group must find similar ones until either the teacher, either a member of the group, suggests one which is inadequate. (For instance, a cyclist covers 30 kilometers in one hour, perhaps 60 kilometers in two hours but not 300 kilometers in 10 hours because fatigue will prevent him from doing so). The group must then find what is common and what is different in the various examples suggested. This is where conceptualization comes in: the adults formulate the differences themselves. Thus, only after this lengthy work which may take between one and two hours, the adults are able to understand the meaning of the concept of proportional magnitudes. They have expressed it in their own

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terms, which probably don't correspond to ours nor are the "right" ones, but the important thing is that they have achieved a first-stage assimilation of this concept. A second stage will subsequently make it possible to seek out with them the terms to employ for the definition.

This method can apply to grammar and mathematics as well as to physics or any other subject. It is obviously very time-consuming but once conceptualization is achieved, the assimilation is definitive.

While this pedagogical method proved to be highly efficient for learners in the case of new subject matters, this did not hold true when deep-rooted mental representations were involved. In this case, the method would consist in having the participants discuss the different representations, in having them become aware of their respective inaccuracies and shortcomings and in having the group re-create all the concepts once it is understood by all its members that each of the representations was incomplete.

These methods imply participation by all those being trained. All this has led to replace the system of courses by a system of training in small groups led by group leaders (students, teachers, engineers). These group leaders " use documents " especially designed for adults. To this effect, C.U.C.E.S. has, for several years now been publishing " semi-programmed " courses. Their elaboration has required a considerable effort which has supplied the C.U.C.E.S. with coherent courses based on the pedagogical methods worked out.

4. Collective Training

In spite of these efforts for improvement at the pedagogical level, the efficiency of the training through courses system has its limits. It is difficult for the adult to valorize his training, that is, by tying in what he learned with his daily life, to discover his new needs and thus to be able to pursue his development. This is probably the reason why so few persons are being trained.

The C.U.C.E.S., the main purpose of which was to try to reach all the segments of the population, was then brought to re-examine and revise the problem and the very principles of training. The basic idea was as follows : the adult who wants to be trained is isolated ; he belongs to a group of people who usually have only one thing in common : the "institution", that is, the teacher and the program. This institution is exterior to most adults and, hence, they draw little or no profit from the training given them. Indeed, this training is often only "veneered" on them and does not take root deeply in their daily emotional life : in general, every one in his own environment is the only beneficiary of the training received with no possibility either of using it, in other words, really benefiting by it, or of communicating it to others.

These problems, - which led the C.U.C.E.S. to adopt new adult training methods, are worth greater consideration. From the intellectual point of view, the teacher chooses concrete examples to illustrate this teaching. In effect, what is concrete for one may not be so for the others, as trainees don't all have the same background. Therefore, not only the example is not understood by the whole group, but it also creates an additional difficulty of comprehension.

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Still from the intellectual point of view, it is almost impossible to understand and assimilate, - that is, to tie in what one learns with one's previous culture, if new knowledge is not illustrated by facts or concrete examples. Believing that the trainee can do it himself is to suppose the problem as being solved. On the other hand, the teacher ignorant of the trainee's previous experience, can hardly help him find examples. In other words, in order for the adult to assimilate new knowledge, the latter must be tied in with his own experience (in the broadest and not only the professional sense) and he must be taught to find and to handle his own examples. This can only really be achieved if the teacher has the same background and the same problems as the trainee.

To apply this principle has the additional advantage of making it possible to demultiply training and to greatly increase the number of persons under training.

But another reason, - a sociological one, urged C.U.C.E.S. to experiment with collective training : not only the isolated adult, sole beneficiary of training in his environment, is unable, it has been said, to communicate his training to others, but he is often even "aggressed" by his environment when he tries to valorize it. Witness those workers having been trained in the wording and drafting of reports and who, once back on their regular job, very quickly returned to their old way of drafting "so as not to be laughed at by their colleagues". Witness also those engineers having received statistical training and who had to renounce using it because their managers themselves, ignorant of these "so-called sciences", requested them not to overdo it. There are many examples

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of this kind.

Training is thus only completely meaningful when tied in with daily life, when the adult is thoroughly reached, when a great many adults from the same community are trained simultaneously. This led to the development of new educational methods no longer meant for isolated persons but for groups composed of people of the same community and expressing similar needs and motivations. This training is complete, it includes professional, general and cultural training ; it makes mutual understanding easier and also the awareness of the socio-professional and cultural contexts. Training is thus for all a true factor of personal development.

- Some examples of collective training. To illustrate both the existence of these difficulties and their possible remedies, we have chosen three examples. Two of them deal with actual hierarchical structures and the third one deals with an "inter-firms" environment.

- Example n° 1. Experiment conducted in an automobile firm
(at the beginning of 1961)

This experiment in collective training was the first one ever conducted by C.U.C.E.S. The management of the firm had asked C.U.C.E.S. to train its foremen.

One objective in this experiment was to test the following hypothesis : firm (and more generally, all organizations) have a permanent need for training.

- . The environment is very important in this training.
- . Members of the organization can and must assume

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their own training, their own self-improvement.

. If management is given pedago-andragogical training, it will be able to detect the training needs, satisfy them and assess the results obtained while, at the same time, being able " to train other trainers ".

. The "intervening institution" (in the present case, C.U.C.E.S.) trains a team, - called relay team, which will go to work independently within the organization as soon as possible.

The C.U.C.E.S. would intervene directly in the organization (first degree training) only to train the first trainers (second degree) and then to ensure the permanent training of the relay team (third degree).

This intervention was not made on the basis of an artificially created experimental situation but on the basis of definite training needs.

When answering this request firm's , C.U.C.E.S. set forth a few conditions :

. After receiving pedagogic training, the engineers would ensure the training of foreman.

. They would do so only after an "analysis of the foremen's needs".

. For research purposes, C.U.C.E.S. would assess the results of the training.

Without detailing the content and the kind of training given by the training-engineers to the foremen, the following main characteristics can be described : the pedagogical approach was liberal and the transmission of knowledge was considered secondary

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to personal development (mastery of the job situation, training in thinking, in work methods, in wording, in communication, development of active attitudes towards self-improvement...). The first cycle, called "sensitizing cycle", the object of which was to make these problems felt, was followed by one or several training or technical self-improvement cycles.

The assessment of the results of the firsts foremen training cycles brought out the following points, in particular :

- The training was accepted all the more as it was directly related to the job problems as expressed by the foremen themselves.
- Training was appreciated all the more as it drew away from "traditional schooling methods" (imposed subject matter contents, "professoral" attitude, ex-cathedra lectures, etc...)
- But, above all, training was meaningful only if the top levels of the hierarchy were also trained and permitted changes to occur, something possible only if these top levels changed themselves.

Management, having at the onset decided to limit this training experiment to foremen, progressively decided to extend the experiment to the shop chiefs, to junior executives and finally to engineers and to executives. In any case, the analysis of training needs had been carried out beforehand as previously by the training-engineers. About 80% of the "maîtrise" has been reached up to now by these systematic training actions. Sixty engineers have been trained and have acted as trainers.

In the final analysis, many lessons have been drawn from this action, of which the main ones are as follows :

- . The firm's training needs are very important and the motivations

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in this respect can be very strong, provided a coherent training system be created and its structural and organizational framework set up.

- The attitude towards satisfying training needs can only be positive if a real cultural change takes place in the organization. All the training actions, whether they concern the junior executive or the engineers and executives and training-engineers have brought out similar requirements :
 - need to improve the system of communications
 - search for better information (received, given)
 - need for a more cooperative chain of command
 - desire for a broader participation in the taking of decisions or the creation of the training system
 - need to reduce the arbitrary in the personnel policy (appraisal promotion...)

Finally, the problems raised by training seem to be closely related to those brought up by the democratization of relations within the firm.

As for the interest focused on training, the attitudes adopted by hierarchy in its relationship with subordinates seem to be determinant whatever the "real needs" for training are. The top hierarchy has a primary role here : its behaviour favours or slows down the evolution. This is one of the limits of the development of training : the changes in the firm are closely related to those of the overall socio-economic context.

The function of training will develop all the more rapidly

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as it will be part of the functions of traditional hierarchy. No system of permanent training can really be instaurated in an organization without a modification of the concept of the hierarchic role. Thus, paradoxically, creation of rational training services means to a certain extent slowing down the development of training.

The development of continuous training within the firm also implies the creation of a training system closely related to the production structures. The nature of training of the various training agents and those responsible for the development and the growth of the firm is of a capital importance : the training given must correspond both to the requirements of the firms and to the expectations of the persons in training. The problems of training ideology and policy rejoin each other at this point.

At a more specifically pedagogic level, the pedagogical solutions must be as closely related as possible to the problems raised by training. This is a factor of efficiency both for acquiring new knowledge and using this knowledge concretely.

Example II. Experiment in a cement concern

Another example of intervention in a firm will illustrate the previous discussed problems and principles. A cement concern comprising some fifteen plants and laboratories spread all over France, has asked us to train their engineers (about 30) in mathematical statistics.

Up to then, C.U.C.E.S. had provided engineers with evening school courses in this field and disposed of training initiation

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documents ranging from the factual observations to variance analysis and correlation. However, the request was new as it dealt with persons belonging to the one and same organization and depending on the same hierarchy. Moreover, the firm had asked that the training cover both the methods and the attitudes, - to develop the so - called "probabilistic mind". C.U.C.E.S. had no previous experience in the cement field as it had, up to then only especially dealt with mines and the steel and iron industry. It was hence necessary to associate to the training right from the beginning persons belonging to the concern. Moreover, because of the importance of the firm, of the number of its factories and of the distance between them, we naturally had to establish "relay-structures".

Thus, this statistics training action was designed to correspond specifically to the problems of the firm. The operation took place in three stages :

- the first was an exploratory stage : we had conversations with the engineers of the firm, plant and laboratory managers, members of the general management and we also visited cement works. At the conclusion of this stage, which lasted nearly a month, the final project was set up together with personnel chief and the operations manager.
- Six engineers of the firm were then chosen by management to become the future trainers in charge of spreading out the methods and the statistical spirit in the firm. Their preparation, both on the pedagogical and group leadership level as also on the statistical level, lasted five months. They participated in

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adult pedagogy seminars (seven days in all) ; they thoroughly reviewed the statistics course we had at the C.U.C.E.S., taking into account the difficulties their colleagues would probably encounter. They looked for and elaborated for each of the headings of the course, a certain number of practical examples and exercises in the cement field so as tying to the greatest extent possible this training with the daily task of the engineers.

- The third stage consisted in the demultiplying of the training function : six groups of six to eight engineers from the firm (all volunteers) were set up according to the geographical distribution of the plants or laboratories. Each of these groups, - the leadership of which was entrusted to a training engineer, started studying the course thus adapted ; the learning of the different headings took place in each plant partly during working hours. The training engineer who was able to help each engineer separately in studying the documents and looking for applications, once a month called for a meeting of his group to study the situation, analyze the difficulties encountered and try the possible applications.

The second stage, which had started with a one-day meeting of all the groups, ended with a two day general meeting -devoted to the assessment of the training.

This experiment fits in naturally in a collective approach which can help solve the difficulties of "the isolated cases" previously described. The demultiplying which characterizes this experiment, the alternation of personal work with group meetings, of theoretical studies with the search of applications, the

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successive readjustments achieved by the training engineers to follow the development of their colleagues' needs, the homogeneity of an instruction given to a whole firm, all constitute factors which make it possible to integrate training in each engineer's daily life.

It is interesting to note that this first training experiment, - though it started slowly, has been afterwards at the origin of a series of other actions still going on in the same firm. Simultaneously, the firm was becoming more and more involved in the personal self-improvement activities. This development was able to occur because statistics are becoming increasingly important in industry, and this without taking in consideration the attitude of the firm's management towards training. Indeed, not only do statistics help promote greater efficiency in solving industrial problems, but they also introduce a new language and spirit in professional life and relationships. Thus, after the first "wave", new volunteers showed up, and a second then a third series of engineers were trained. Each group included 30 to 40 engineers and was in every case led by other training engineers. By June 1967, almost 80% of the engineers will have been trained in the probabilistic methods and spirit.

Simultaneously, as acquired training enabled us to deal with real and increasingly complicated problems, the need to extend this learning to the other hierarchic levels appeared. A first experiment in training junior executive started in the Spring of 1966. It concerned some fifteen agents, and was taken up again in October by the laboratory management for its technicians.

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It is to be extended to cover the plant's junior executives in 1967. Moreover, at the beginning of 1967, a training action was started with the plant managers. Some of them had already enrolled together with their subordinates, for one of the three training sessions conducted by the training engineers. New possibilities of a dialogue based on coherent learning for the different branches and at the different hierarchical levels thus appear. There is even in one plant an engineer who directs a training group comprising managers, executives and junior executives.

And beyond the methods themselves, the statistic spirit has spread out throughout the firm : two training actions dealing with the problems of data collection processing and transmission are being conducted at the production and commercial managerial levels.

All the activities planned for 1967 correspond to a full-time job for a C.U.C.E.S. executive, which may seem rather insufficient if we take into consideration the volume of activities undertaken. But precisely because of this concern to urge the firm to take over the entire experiment, it will be perhaps possible to see occur a development of true permanent education only based on a refresher course. This concern was expressed by the creation within the firm of a group called "complementary group for training" entrusted with maintaining, preserving and extending the already acquired knowledge as new needs appear, that is, assuming the relay and planning both an expansion of training activities for the years to come and a progressive decrease of C.U.C.E.S.'s participation, especially since the

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creation of a Training Management.

Example n° III. Experiment in the Briey mining basin

On the proposal of the representative of trade-union organization the "Comité Départemental de Promotion Sociale" (Social Promotion Departmental Committee) has asked C.U.C.E.S. to study the setting up of a general training program designed to raise the level of knowledge among iron-ore miners and to increase their adaptation possibilities.

A quick analysis of the economic and social context of the iron-mining region, the dismissal of workers had been caused by the drop of ore sales, - showed that it would not be sufficient " to set up a C.U.C.E.S. center and to give Higher Job Promotion evening school courses ".

C.U.C.E.S. thought it was necessary to implement a system of training "open to all", and adapted to the needs and to the different levels of a population with little school education. C.U.C.E.S. then suggested a general non-professional training, based on the needs of persons and adapted to new needs as they arise.

Such an action had chances of succeeding and developing only if, right from the beginning, all those concerned accepted full responsibility for it. All the institutions participating in the life of the region had to become agents who would control and promote the program, as the problem concerned the whole community.

Consequently, C.U.C.E.S. suggested the creation of a commission consisting of representatives of the different trade-union organizations, of management and of the public authorities.

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C.U.C.E.S. also suggested surveying some hundred persons of the region to find out how these persons perceived the problems of training (what needs were expressed, the main obstacles, and the motivations for training).

The program was carried in three stages :

- The first one consisted of an analysis of the socio-professional and cultural environment.
- The second one enabled the commission to study the action to be undertaken on the basis of the survey of the environment :
 - . a joint solution of the preliminary problems
 - . implementations of an experiment chosen from among four projects suggested by C.U.C.E.S. and based on the analysis of the environment. This experiment consisted in organizing training cycles of 20 two-hour reunions to the intention of 12 to 15 participants, on points of interest determined by the original survey.
- The third stage consisted of a training action in a small region, namely a part of the Briey basin.

It is still too early to assess the results, but we can already say that the action tends to be a "collective" one.

- It has been organized and implemented on a collective basis :
 - . The necessary publicity was made on behalf of the commission.
 - . The premises used for the training belong to the community (city halls, youth homes, reunion halls of mines).
 - . The trainers have the same occupational background as the trainees.

The response of the environment to the publicity was massive : in a few days, 480 miners (out of 3.000) enrolled.

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A massive response is, from C.U.C.E.S.'s point of view, very important. In the present case, in a team of 15 miners there is an average of two participants in the training action. On the job site, the training is a subject of interest and discussion : some problems are solved and an increasing number are raised.

One of the characteristics of the collective training action is precisely the spreading exchange and utilization of knowledge. Some other pedagogical characteristics were also analyzed during this training action :

- the participants belong to the same profession and they have common interests and similar ideas on life ;
- the training is custom-tailored to the individual. Each one chooses his training program according to the needs felt and analyzed by him. The action is also adapted to the general level in as much as the commission obtains outside opinions, especially those of the representatives of the participants and it adapts the action to the environment.

During the next step, we shall try to set up action operational relays (participant and trainer committees) so as to allow C.U.C.E.S. to concentrate on the pedagogical problems. This stage will be of major importance. It is in as far as action will develop along these lines that we shall be able to speak in terms of "the process of the environment taking charge of the permanent educational action".

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5. CONCLUSIONS

All the described experiments are just burgeoning experiments. The education of adults is only in its initial stages as it is still hesitating between university refresher-courses and the so-called "cultural" education (in the artistic sense of the word : music, painting, literature, history, etc...). It must go beyond this stage to elaborate an integral system which will no longer dissociate (and above all no longer oppose professional education, methodologie general education and cultural education. The education of adults and the education of children must join their efforts to become permanent education.

a) A project for a system of adult education.

As shown by the analysis of the previous experiments, the reasons advocated for the development of permanent education prove that it would be dangerous to separate professional training, general training and access to "culture".

- . With professional training, there may be the risk of "fabricating" "people-to-be-reconverted" if it is not backed up by a basic training enabling adults to see their apprenticeship in the proper perspective.

- . General training can not be assimilated by the adult in training unless it is related to his real emotional life which comprises both professional, family, social and cultural realities.

- . Access to culture can lose almost all its meaning if the adult benefiting by it is unable to find a position at a level corresponding to his potential and capacities. Would it not even be dangerous to provide the adult only with cultural development by dulling his spirit and keeping him away from economic reality ?

These three types of training would, on the contrary, merge very well into a single culture understood in the sense

of "development" as the latter must occur simultaneously on the basis of technical, scientific and cultural contents. And, as we say, collective training favors development.

For these ideas to become realities, a new system should be designed on the basis of institutions which could consist in regional university centers of a completely new type. We shall here, only outline one project of this type. The roles of such a center would be :

- to enable the synthesis of all the existing efforts and the circulation of results through meetings and publications ;
- To conduct active and systematic research on training action which would be conducted by the institution alone or jointly with other organizations.
- To train trainers in view of individual or collective action.

However, the right to assume these roles will be given to the university regional center only if it proves its competence. Now, it will be able to become competent only through participation :

- in direct and demultiplied actions
 - . either the center's own, thus constituting its main field for action and research ;
 - . either related with other existing institutions.

These actions can then range from a simple pedagogical advice to the training of trainers, including the providing of pedagogical tools and documents ;

- in indirect and demultiplying actions

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which are truly new actions occurring within organizations and conducted with representatives of these organizations. The objective is then to bring the "school" as close as possible to the public and the real needs, and not to draw the public to the "school".

When examining the possible roles of this kind of center, it is important to stress the importance of research. Indeed, we think that true progress can be achieved only if systematic research is conducted. This research will be of a new kind as most of it must arise from the training actions while at the same time also feeding it ("feedback"). It is in this manner that "pedagogical research" could develop, the objective and methodology of which being defined in and by the pedagogical reality and its results serving to clarify the pedagogical reality and provide operational procedures.

This pedagogical research must integrate systematical and scientifically accurate surveys necessitating well-equipped and staffed laboratories. Its origin and its purpose must necessarily be found in the educational reality. We must hence create and promote a true symbiosis between research and action.

b) From adult education to permanent education.

We have willingly limited the previous ambitions, already considerable, to the education of adults. We have stressed how dangerous it would be to create separate educational systems for children and adults. It is just as dangerous to relate them without due care.

- If education does not incite the child to continue his

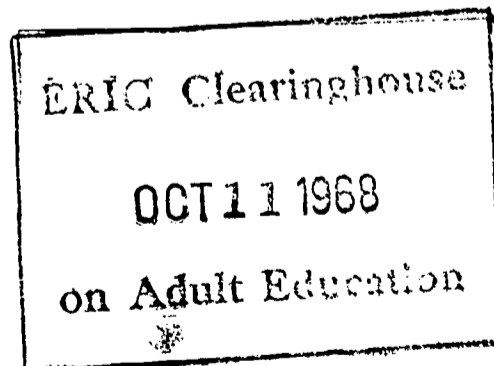
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training once adult, it will be impossible for adult education and, consequently, permanent education to exist.

. If the two educational systems are independent, the adult will find it difficult to tie in the new training with that received in his childhood. The effort accomplished by him might even be traumatic.

. The research process, the experimenting, the considerations that proceed from it and most of the results of this research must be common to adults and children education.

These ideas led some British institutions to experiment with permanent education colleges. This is what incites us to suggest attempting integral and continuous education experiments. Such experiments are an important factor for the development of a region or a whole country. And shouldn't this mean that in ten or twenty years' time, the previously mentioned adult education centers should probably be transformed into permanent education centers the objectives of which would be similar but covering a broader field of action, namely, education as a whole ?



SECOND PART :

RESEARCH UNDERTAKEN AT THE " CUCES-INFA " COMPLEX in 1966-67

We break down the research in three categories :

- The first category is characterized by research "proceeding from action" and aimed at "returning to action". Consequently, the requirements of the training have priority on those of the research and eventually lead to changes of orientation in the course of the operation.
- The second category has a final object research itself, but it cannot take place without experimental groups. In the most favorable cases, the experimental groups are convened expressly for the purpose of research.
- The third category is not directly related to the action but of course it corresponds to final educational operational objectives.

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CATEGORY 1

We shall not describe the research in detail, but simply enumerate it and very succinctly characterize the nature of the audiences involved and the study method. Quite often, real research is not involved but rather studies and experiments related to training by the very definition of this first category.

A. Knowledge of the audiences

- a₁ analysis of motivations for linguistic self-improvement : examination by questionnaire of some ten engineers and executives.
- a₂ examination of the concept of "universal" training of skilled workers and of the needs in this field, conducted in the steel and iron basin of Longwy with the participation of the firms.
- a₃ analysis of the improvement needs of a population, brought about by social promotion ; survey made of some hundred workers and foremen by interviews and questionnaires.
- a₄ methodology for the study of improvement needs and functions : studies essentially related to the training where the analysis of needs is not dissociated from the training itself ; these studies were carried out on the basis of collective actions in hospitals, in three industrial firms (at the executive and junior executive level) and among workers living in two regions of eastern France.

B. The Programs

- b₁ Conditions for setting up a programming training course :

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the priority objective of such a training being the training for logical reasoning (such an experiment was carried out among technicians) ;

- b₂ The consequences of a general teaching in statistical methods on the communications, the operation and the structures (taking into account the demultiplication implemented) in an industrial firm : experimentation at engineer and executive level in an industrial firm ;
- b₃ Definition of training planning taking place in a succession of short-lasting cycles (30 to 40 hours) : experiments at various levels and in different environments (miners, textile workers, foremen) ;
- b₄ Elaboration and implementation at all levels of general training programs (training in the working method, in written and oral expression, in communication) ;
- b₅ Research on : the technical object, as a subject of intellectual development.

C. The material aids (tools)

Related to the production of the actual documents, the studies bear essentially on the methodology for elaborating these material aids and on the use of the documents in working groups.

- c₁ Working documents (booklets). At the technical agent and foremen level, final elaboration of working documents in the following fields : industrial design, mechanics, chemistry, industrial economy ;
- c₂ In job promotion, elaboration of semi-programmed documents at levels ranging from the Certificat d'Etudes Primaires

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(Elementary School Certificate), to the Baccalauréat
(High School Degree) :

- . in mathematics
- . in physics : preparation of a PSSC reading manual (american)
- . in statistics

- c₃ Elaboration of models and demonstration kits for the physical sciences ;
- c₄ Experimentation of closed circuit television, utilization of the magnetoscope production of filmed sequences. Influence of such tools on the contents of training and on the relations between pupils and knowledge, pupils and teachers, teachers and means.
- c₅ Production of films on :
- . economy
 - . expression
 - . graphic images
 - . statistics
- c₆ Conditions for the use and production of silent film-sequences (maximum of 3 minutes) on a concept in view of ensuring uniform progression between different groups led by different group leaders and flexible enough to guarantee adaptation of the target population (workers, foremen).

D. The methods

- d₁ Study of a controlled improvement course for the spoken practice of English and German in self-training groups (these are independent groups of 3 to 5 persons meeting at a self-imposed rate) without direct participation of a group leader and communicating with the latter via tape-recordings. Production of tape-recordings : control of the results. Audience ; engineers and executives.

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- d₂ Evaluation and self-evaluation, that is, evaluation by the persons in training of their own results and of the mistakes made or difficulties encountered. To the passive attitude substitute an active attitude and a critical appraisal of the training.

Objectives

- . Effects on the rhythm of progression adopted by the teacher.
- . Effects on the teacher-pupil relationship.
- . Effect upon the pupil's awareness of his progress.

Beyond this method, efforts are made to set up a diagnostic procedure for the assessment of the capacity of the pupil to continue his studies under the most varying conditions and at all levels.

- d₃ Relative share of the formal teaching by the teacher and of the assimilation work in small groups. Attempt to totally suppress ex-cathedra teaching by the substitution of training through group leaders with the help of sophisticated working documents. Experimentation in the most varying circles and at all levels.
- d₄ The pedagogy of concepts and representations : experimentation at very low levels in very different circles.
- d₅ Experimentation of an alternate teaching formula for production engineers designed to prepare them for professional change. Setting up of a system relating training to problems encountered in the professional life. Audience : engineers and executives.
- d₆ Inclusion of training in socio-professional environment. Problems of the training of trainers. Study on how to establish relays. Audience : hospitals, industrial firms, communities.

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CATEGORY II

This category deals with a much more traditional field of research where actual research predominates. However, because it is related to training, not every thing is allowed. For instance, when six groups of fifteen adults are the subject of a programmed teaching training experiment, this experiment cannot possibly be continued for several months without modifications if it appears, after a few weeks that some groups risk being completely sacrificed. Moreover, to the greatest possible extent, the participants are chosen among volunteers who know that they are "research subjects". This research shall now be studied in greater detail, because of its specific characteristics.

1) Use of programmed teaching

We intend looking into the limitations of programmed teaching. Presently, there are three outstanding questions :

- . How to use programmed teaching : with or without teachers ?

Concurrently with other means, or not ? An experiment is taking place with control groups, some with teachers, some without but with a group leader (who only answers questions asked) and with persons alone at home. The purpose of this is to determine what a teacher or a group leader can bring to a group.

- . What subjects can this teaching cover ?
- . At what level ?

Moreover, a question is raised not on the objectives, but on the consequences of this teaching : does it favor memorization, does it permit conceptualization, transfer ? Transfer must be taken as meaning the capacity for using knowledge to solve problems

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that have not been determined in advance.

Another important question : is programmed teaching a system of training for the teachers ? Wouldn't programming training be a good way of obliging a trainer or teacher of adults to think about the way he teaches ? This training would probably lead to a complete re-examination and or revision of what is usually done by him.

2) Study of operational structures

Many problems arise :

- . First of all, at what mental level is the adult ? Does he give answers that are characteristic, at their different stages of the mental levels of children ? It is very important to answer this question in order to know whether or not what is known about children can be used and tied in.

- . Are the difficulties encountered by adults in training different from or similar to those experienced by children, and, according to the answer to this question, must the same pedagogical rules be followed with the adults ?

- . Does an individual place himself at different mental levels in function of the various notions encountered ? This is important ; there is probably no reason why an adult should be treated in the same way for different subject matters.

- . Is it possible (and how ?) to "rekindle" the development of adults ? Have some persons fixated themselves once and for all at a given level ? Is there an evolution related not only to age but also to time throughout a man's life (temporal evolution) ?

3) Reading problems

As regards reading, the research has a dual objective :

- . What are the objectives of a training in reading which adults will respond to ?
- . What are the trainers' objectives when they train people in reading ?

It is also necessary to find out what are the obstacles to reading and whether these obstacles are situated at the level of the comprehension of signs.

Are they (the obstacles) located at the syntactical knowledge or comprehension level ?

It is likewise necessary to know the motivations and the resistances of adults as regards reading. Hence, the problem is one of diagnosis, and has many variables.

4) Research on expression

Two studies have been undertaken on this subject :

- 4a) The first is an experiment in training for oral expression. This training is given by a teacher having tested his methods on students for many years and now trying out his training on a group of adult workers. The experiment is being observed and assessed by two psychologists.
- 4b) The second study is of an altogether different nature. Its aim is to find out the needs for expression training at the junior executive level in industry, and comprises three stages :
 - the first stage is to study the verbal operations involved in certain jobs of an industrial organization (form, content, length frequency of these operations when formulating instructions for commissions and for simple transmissions of orders in any activity of relating to others).

- the second stage is a survey of the attitudes towards expression functions in the industrial environment, both within and outside the firm.
- the third stage, finally, is pedagogical and based on training experiments, experiments based on the needs determined in stages 1 and 2.

CATEGORY III

The research we are about to examine is of a general nature and is directly related neither to training actions nor to experiments. It has a sociological character.

The main studies undertaken or archived since 1966 are the following :

1) analysis of the motivations for self-improvement of an engineer and executive population.

This is a participation-survey on the attitudes of engineers towards self-improvement. This survey was conducted in two stages :

- The first stage consisted in training a group of engineers in the study of problems and in the participation-survey ; during this training, the engineers grew up a questionnaire themselves.
- The second stage had as purpose the filling out of the questionnaire and its analysis. More than 1.000 answers came in. The analysis was based on statistical methods and resulted in a synthesis report and in a summary-report.

2) Analysis of the training aspects of reconversion problems

Three qualitative and quantitative study orientations

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were established to delimit the broad research scope which could apply to the notion of "occupational reconversion".

. Based on a survey by the "Institut National de la Statistique" (National Statistics Institute) on the mobility of workers, we have studied the most frequently occurring possibilities of change. Then, we checked these possibilities according to the categories of populations retained, the influence of age, the number of children, the length of schooling, the diplomas obtained, etc... The second exploitation of the results at another level, was designed to draw up the profile patterns of all the combinations of criteria which showed up as being most frequent and to examine their respective influences. We wanted to detect, confirm or invalidate certain research hypothesis.

. Another part of the study consisted in collecting as much data as possible on the problem of reconversion, through a series of exploratory non-directive interviews with persons really having gone through a reconversion. In addition, exploratory contacts were made at with several firms having had to proceed to the reconversion of various personnel categories.

. The third part consisted in analyzing the use of knowledge acquired at different levels of skills, in specific job situations. The survey strove to detect the knowledge used, particularly in the examination of mental strategies capable of appearing at certain critical moments in the execution of tasks.

These three studies resulted in various reports among which a synthesis report.

This lengthy survey is now being followed up by a short study

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designed to determine the reasons why training courses that drew many workers from a region very much threatened by firings did not, on the contrary, draw the personnel of two firms absolutely condemned to disappear in the very near future.

3) Analysis of the reasons for enrollment in evening school for higher job promotion : study on the psycho-social meaning of this training request

By higher job promotion is meant courses where adults come to obtain diplomas. The pupils in these centers are willing adults who, after a whole day of work, accept to go to evening school four times a week for about two hours ; for some of them, this can last up to five years. The hardships endured do not automatically bring about social or professional promotion, the delayed benefit remains uncertain. All this undoubtedly supposes a very strong motivation to be a volunteer for these courses, which is why we wanted to study them. Our objective was to detect the underlying reasons for such a search of promotion.

How is it, indeed, that an objective which is so hard to reach, nonetheless does draw individuals, and for what reasons ?

While enrollment in the higher job promotion center is open to all, why are some persons so interested and others not at all ? Is this desire for promotion the result of a gap between aspirations and the real possibilities of fulfilling them ? Is this gap the result of purely personal factors, or of social and cultural variables ? Therein lies the objective of the study which was conducted by non-directive interviews and which

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helped draw up a questionnaire submitted to 120 pupils at various levels and also to persons of a control group made up of individuals matched by age, family situation, socio-professional category and activity-sector.

This study gave rise to a lengthy report.

4) Study of the causes for giving up the higher job promotion evening school courses

To a certain extent, this study was complementary of the preceding one. Recognizing the fact that the courses were hard and painful, we wanted to find out why a certain number of pupils dropped out in the course of the "school year".

The people responsible for the center covered by the study wanted to know whether some of the reasons for giving up the studies were not due to the pedagogical methods. A study was thus conducted via lengthy interviews with a certain number of pupils. This study also resulted in a thorough report which certainly enabled the center's management to modify some of its methods.

5) Research on the attitudes of adults towards progress and change

Adults "needs" for training can be considered as being caused by the acceleration of social and economic evolution. However, satisfactory answers to the situation thus created will generalize themselves only if the adults become aware of these needs, - and other driving needs, and respond thereto by active motivation. The adults' attitudes towards training are an essential aspect of the situation in which the training of adults stands. More generally, economic and social evolution

is itself related to the attitudes existing within a culture towards "change" and what can be (or not be) felt as being progress.

It is based on such an hypothesis that in a first stage, the study was conducted with 280 clinical interviews being carried out within four homogeneous population groups : teachers, executives, workers, peasants. Are also studied the representations of these notions as presented to Frenchmen by the press. Related work must allow to assess the results : examination and analysis of the literature on the relations between economy and training. - study of the semantic field of each of the three notions, history of the notion of progress in France since the end of the XVIIIth century. It is hoped that it will be possible to conduct an exhaustive survey in France and other countries (for comparison's sake) and also to study the relations between the data obtained from the interviews and the attitudes observed.

6) A job situation - sociological analysis model.

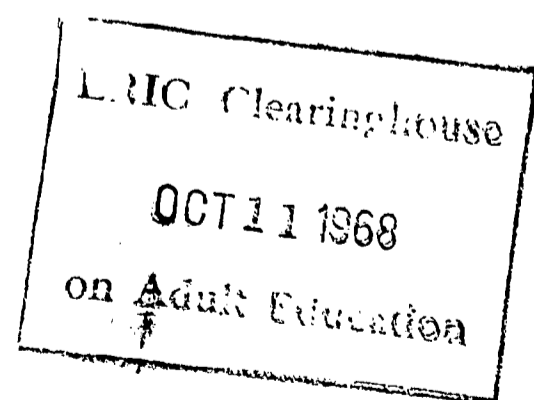
The objective of this study is to introduce and promote analysis methods as scientific as possible in view of studying the real requirements of job situations and men's needs towards their tasks. In effect, the problem of the "contents" to be taught exists explicitly in the numerous adult training organizations ; the presentation of a realistic and dynamic image of job situations should facilitate the problem of content determination.

To achieve this goal, the proposed model rejects the notion of adding up general results stemming either from the study of objective job requirements or of the professional roles, or

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of the needs of working man. Its objective is rather to understand the relations and links between the job situation as an activity system and the reality that governs it. Thus, the model leads to look for, on the one hand, the relations between the socio-technical environment : the organization, its structure, its technological evolution, the projects and the expectations of the responsible persons ... and the job situation, and on the other hand, the relations between the meaning granted by individuals to their environing reality, between the social infrastructures that govern them : the socio-cultural environment and its action grasped through the training received, the professional background, the personal projects ... and the job situation. The latter is the essential subject of this analysis.

However, this method cannot determine programs on an absolute basis. It allows to place the pedagogue before a realistic and dynamic image of the functions for which his training prepares people, but he nonetheless remains master of his decisions.



THIRD PART

FOR A SOCIOLOGY OF ADULT EDUCATION

1. THE TRAINING OF ADULTS IS A SOCIAL FACT.

The words "training of adults" belong to the language of our time : lectures, authors of newspaper and magazine articles, even of books, use them ; they appear in the sigla of many organizations ; "adults", alone or in groups, spend part of their time in activities called "of training" ; even legislators work at making institutions out of what is done on behalf of the "training of adults". To this, we can add all the outside manifestations that are as many indications of the general character and of the social interest in the phenomenon these words describe.

But looking at the phenomenon in its actual expansion is not enough to allow us to say it is a social fact. We must yet show that it asserts itself with all the power of a social current and that it takes its source in society itself and that it is essentially brought about by social factors.

Without arguing any further, we can already remark :

- that in a process of training adults, -whatever its form, there is an intervention of agents or of social groups with varied roles (trained trainers, but also administrators, partners etc...) whose interests, projects and expectations, even their conducts, are not without some relevance to the social game in which they take part ;
- that such a training process comes under the influence of social factors integrating the various demographic, economic, technical conditions etc... of social life (for instance, a

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more or less advanced state of schooling, the state of the labour market, the level of technicalness, the cultural requirements etc...)

- finally, that a process for the training of adults remains linked with the systems of values of social groups, whatever the attitudes adopted towards them (respect, contestation, etc...)

But, more than anything else, we must note that the training of adults is only a manifestation of a larger phenomenon, of the pressure exerted by any society upon its members (1) : mediations can be diverse, more or less organized, the pressure can be stronger or weaker, more or less felt as such ; that does not suppress the fact that every society "works" upon itself, both to perpetuate itself and adapt to the conditions for existence, and to shut itself or to open up to new ways of being. Whatever the objectives of a training of adults, whether it aims at integrating individuals in a social system or tries to make the system itself evolve, it is nonetheless a social work in its origin and its finality, as every education anyhow is.

The latter notation calls upon us to remark that if the training of adults is a specifically social fact, that does not necessarily mean that it is a specific social fact. The problem will be more explicitly set when we shall deal with the limits of the study of a sociology of the training of adults.

2. PERMANENCY OF THE PHENOMENON.

The fact that the words "training of adults" tend to become casual nowadays does not mean that the education of adults had not

(1) Society has the means to teach people what they must do, and also a series of corresponding external or internal sanctions for those who do not put into practice what they have learned". Margaret MEAD, "L'un et l'autre sexe", Gonthier 1966, p.214.

been contemplated in times and in societies other than ours, nor that this social reality is only particular to our time. Quite the contrary, and the above lines indicated it. Inasmuch as the training of adults is dependent on the process of socialization that every society sets in motion and which is applied, - in many different ways, it is true, to all the members of a society, the training of adults is certain to have existed at all times and in all societies.

Verifying this hypothesis calls for both a historical and an ethnographical study which, of course, cannot be conducted within the limits of this text, but which must be taken into account as parts of a sociology of the training of adults, of which they will increase the full significance by giving to the phenomenon its real dimensions.

Still, it is interesting to mention, - so as to illustrate if not to prove, the concerns and the achievements in the training of adults which belong to another time but appear as being closely related to our own concerns and achievements.

- 1) Thus, circa 1709, Jean Baptiste de la Salle opened the "first sunday school for adults" ;
 towards the middle of the XVIIIth century, the manufacturing towns (Rennes, Marseille, Lille, Lyon, Paris) created schools for the art of drawing ;
 as early as 1823, the ironmasters (maîtres de forges) created schools for the workers ;
 in 1868-69, in France, 793.000 pupils enrolled in 33.638 evening schools for adults ;

^a cf. Guy THUILLIER "La promotion sociale" PUF 1966, from which are taken the citation and informations, cf. also, DUVEAU "La vie ouvrière en France sous le Second Empire" 1946, Paris, Gallimard.

- 2)- Already, the notion of social promotion had been put into words by Condorcet, in his report to the Assembly dated 20-21st of April 1792, in which he declared that "instruction must take in all the ages ... this second education is all the more necessary since the one given to infants had been restricted within narrower limits ... every Sunday there will be a public lecture to which will participate workers of all ages ... it will be possible to show him at last the art of learning by himself, looking for words in a dictionary, using the summary of the book, reading narratives or descriptions, notes or extracts in a book, a map, a plan or a drawing".
- 3)- Pedagogical problems and methods, -the modernity of which is all too evident to us, prove to have antecedents of already long standing, as shown by this document : a text from the newspaper "Le Globe" (N° 191, dated December 1st, 1825)
- In it, we learnt that baron Charles DUPIN, professor at the C.N.A.M. (it was founded in 1792), after having studied the training methods used in the british industries, created in 1825 a "course in geometry and mechanics as applied to the arts, for the shop-foremen and their helpers in workshops and manufactures, and for the artists." In his opening course ,
- he recalls the professional reconversion caused by tehni- cal progress, showing the benefactory effects obtained ultimately by the progress of mechanization (1)
- (1) He did not hide the evils of transition: "It is then, he said, that all noble minds and kind hearts must concern themselves with bringing relief to the sufferings of the workers who have become useless". Monsieur de PRONY, seeing a vast number of wig-makers forced into inaction because of the change in the fashion of head-dresses, thought of making calculators out of these men, -using a clever method : they needed only know how to add figures.

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- . he advocates what we call nowadays "demultiplying" (1)
 - . he even foresees the use of manifold copies of the courses taught(2)
- Of course, "establishing general propositions, -trans-cultural and trans-historial, cannot result from the simple bringing together of cases isolated from the historial and social context in which they exist."

(P.BOURDIEU, "Condition de classe et position de classe", Archives europ. de sociologie, tome VII, 1966, n°2, p.204). However, through these few examples (3), it is clear that some ideas and some practices used nowadays are in fact old beneath the face under which they

(1) "In France, we number more than 4.000 civil and military engineers who have graduated from the Ecole Polytechnique and all able to teach of sciences as applied to the arts."

(2) " The professor has the concierge(dowrman) sell for only two sous the program of the lesson, so that it will be at the same time a guide with which to follow him while he is teaching, and an analysis to find out what he said if one wants to go back to his teaching for closer examination and to profit by it through homework."

(3) These examples bear on the XVIIIth and XIXth centuries in France, but it would not be difficult to find other examples that reach beyond these limits. Was not the 'Tour de France' practiced by 'compagnons' belonging to trade-guilds, - an institution born of very old traditions but still very much alive was it not a sort of organization for the professional training of adults ? Did not the abbeys (Cluny, for instance) appear among other things to be model-farms ? Did not medieval universities, - like that of Bologna, accept adult pupils ? Has not the evangilization of the West, - at the beginning of the christian era, been a vast understaking of training, sanctioned by the baptism of adults ? In some projects for missions during the XVIIth century, we find the idea of demultiplying. Thus, in "L'éthique protestante et l'esprit du capitalisme" (p.128,note 35), Weber notes : "According to Hudson TAYLOR (see Warneck, op.quoted) China numbers about fifty million families ; a thousand missionaries, each one indoctrinating fifty families a day (!) could present the Gospel in a thousand days, - or a little less than three years, to all the Chinese ".

appear now and may have appeared through times past ; moreover, it seems that the training of adults has always existed, - although under varied aspects, - at least as a concern even if it has not given birth to achievements organized with precision. Nothing of this is surprising, because socialization, - which is inherent to every form of social life, is a phenomenon that affects man as a whole, at all the moments of his existence, even if a certain ethnocentrism makes us give a privileged position to that socialization which reaches the child through the school.

3. LIMITS OF THE FIELD OF RESEARCH.

The problem of setting limits to the field of research is of the utmost importance, as behind this question of method can be seen the question of objective ; a wrong answer to the first question can only cause mistakes to be made in answering the second question. But it is a difficult problem to solve, and the remark that ended the previous paragraph indicated that it is not easy to give a well-defined objective to a sociology of the education of adults : beyond the apparent simplicity of the expression, one quickly sees the ambiguity of the words and beyond the latter the difficulty of grasping a social reality of uncertain limits.

The ideal solution would be to 'slice' this social reality without too much arbitrariness, or at least fully knowing how much arbitrariness is involved in a given slicing chosen instead

of another that would involve more of it. As the geologist mentioned by LEVI-STRAUSS in "Tristes tropiques" (1), one should use the differences of the surface to discover the fundamental "fault in the rock" that would explain them all. Does it allow us to take advantage of a division, - seemingly evident, between what we could in short call the scholastic and the non-scholastic (2) ?

Because of some characteristics (doctrines, practices, behaviours, etc...) the education of adults would set itself apart and should be looked for outside the scholastic institutions (3). As this "cleavage" seems to coincide with a division determined by age, - children and adolescents on the one part, adults on the other, one is more under the impression of having found a satisfying pattern. However, if it is true that school has, -

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- (1) "When first seen, every landscape is a huge disorder which leaves us at liberty to choose the meaning we prefer to give it... But ... this pale and blurred line, this often imperceptible difference in the aspect and consistence of rocky debris indicate that where I now see a dry, barren country, once upon a time two oceans existed and succeeded one another, But let the miracle happen, as it sometimes happens ; let there appear on each side of the secret crack, growing close to one another, two green plants belonging to two different species, each one having chosen the most propitious soil, and let there be seen, at the same moment, in the rock, two ammonites marked by involutions of unequal and different complication, each in its manner witness to a difference of a dozen or so millenaries, all of a sudden, space and time are one."
(LEVI-STRAUSS, "Tristes tropiques", p.43, Plon, Coll.10/18)
- (2) To consider this division as a difference on the surface is not to pretend knowing the fault that can explain it, nor is it valorizing one field at the expense of the other ; put clearly, it is neither making ours a contestation of the Teaching nor holding in contempt what is done outside school.
- (3) "Les règles de la méthode sociologique" (E.DURKHEIM, préf. 2ème édition, Règles de la méthode sociologique, p.XXII) "We can..... call institution all the beliefs and all the ways of behaviour instituted by the community".

in the education of the first ones, a predominant place which it does not appear to have in that of the latter, this division seems very much artificial, not only to one who speaks of "Permanent Education" but also to whoever ponders the existence of non-scholastic institutions intended for children and adolescents, - what G. FRIEDMANN significantly enough calls : parallel school, and the existence of scholastic institutions intended for adults (refresher courses for Engineers in the schools from which they graduated) : moreover, the case of the students is proof enough of the difficulty encountered in using this distinction : they go to the university, but is that enough to exclude them from the "category" of adults ?

We must then lower our tone of voice, and even if this distinction into scholastic and non-scholastic were to prove essential to express the phenomenon, it cannot be used at this point of the research without incurring the risk of mutilation on the one hand and the danger of prenotation on the other.

On the other hand, if we plan to use the notion of adult to delimitate this field, we encounter another difficulty. What is an adult ? As a great many words which seem clear because they have been sanctioned by everyday use, the word 'adult' remains equivocal : according to the context, its meaning will be biological, psychological, legal etc... In any case, its content varies with societies and with time. This only underlines the fact that it is a pseudo-category, a characteristic used by every spontaneous sociology, and of which we must beware.

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However, without trying to find a meaning and then only one for the expression "education or training of adults", we can use it as a reference mark thanks to which the "slicing" of the social reality becomes possible, in its turn enabling us to delimit the fields of study : among the educational institutions, some have as an explicit object the education of adults (thus, we have organizations called "for the training of adults").

We must take into consideration the various institutions, even if they are defined only by this common external criterium ; even this can make possible the drawing up of an inventory (1) and a strict study of the institutions in which the process we are trying to understand is becoming a reality.

But, if we take into consideration only these institutions, is there no risk of letting escape whatever it is, - that without it seeking publicity, is a manifestation of the social creativity in terms of education of the adults (training on the site of work, groups of peers, etc...) ? It would seem contradictory to want to delimit this "remainder" that cannot be eliminated without the danger of mutilating it ; still, it is important that we look there for some strategic points from which we can have a comprehensive view of the whole phenomenon.

When trying to delimit the field of research, we bring forth the dangers that research would encounter either in setting limits to its action or in avoiding the problem of its limits.

(1) a documentation and a file on organizations an inventory being compiled.

The research undertaken cannot be satisfied with being solely the study of a series of organizations devoted to the education of adults, because a simple typological and empirical description favours the preconceptions or the "a priori" attitudes of the researcher, who belongs to his own time and social group, who asks questions and consequently makes facts appear according to the questions asked, eliminating thus from them aspects that would seem essential to another researcher. Research must be placed in a wider perspective within the phenomenon which as a whole gives a meaning to the facts under observation; this implies a historic dimension and the taking into account of the whole. In other words, the monographic studies of organizations would be insufficient if they did not take place within a general analysis, bearing on a historic period long enough that we may distinguish the existence of functions of transformation or of renewing.

The danger would be the same if, neglecting the study of the collective units, real and partial, made up by the organizations for the training of adults, the research bore only on the knowledge, -even if it were put in a perspective of history, of elements concerned, or set in motion by the process of education of the adults, after having made abstraction of the circumstances in which they develop: for instance, a generalizing study of the populations affected by the phenomenon (users, participants, trainers, partners, managers, etc...) of educational technologies used, of the attitudes towards training, of the motivations... Research could incur the risk of neglecting the mediatory roles played by the educational organizations in the works of the society, works that are tied to the process we wish to study.

A study of the organizations cannot account for all the creative wealth of the process of socialization that each society sets in motion. It will be impossible to describe here the informal aspects of this process (within the work-team, the group of peers, in the streets, while viewing films, during television shows, lectures etc...) but we shall have to go up to the limits of the formal and choose organizations that are in the process of building their structures ; starting with the study of the organizations through the individuals, the systems of organization, the outlines of the roles, of programmes of practices, we must also link ourselves constantly with the social life, the social groups, the values and ideologies, generally speaking to the control carried out by society ; we shall thence have to put back the facts collected, - or the data obtained, within their "space-time" frame, so as to bring out their inner meaning.

4. - PROJECT FOR STUDIES

41. The situation of training

As research wishes to grasp a social action that is carried out by educational organizations as well as in an unorganized way; it is important, - so as to obtain coherent results, that research work toward an objective that will be common to all the cases considered and that will also be significant of the whole social phenomenon.

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Both starting point and center of the study, the situation of training, - in which teachers and trainees meet, appears as being :

- the privileged locus where the phenomenon of education of adults takes place,
- the resultant of the many factors which are perceived as acting forces because of their effects but which remain to be set forth, distinguished, balanced,
- a social fact, the multiple synchronic and diachronic aspects of which refer to the whole of the social game, and which cannot be understood outside the latter.

More or less formalized, crystallized, standardized or organized, the situation of training exists according to different modalities which do not all appear with the same vivacity. It is within organizations called "of training" that it seems to be least ungraspable, and that is where we shall study it first. But, since at this point of the research we cannot pretend to start neither from a sum total of knowledge nor even from a body of hypotheses, it is first through studies in the field, studies of an ethnographic type; that the research must begin.

The questions by which we shall try to reconnoitre the field and to obtain a general view, - as complete as possible, of the organization studied, depend on three interrogation points :

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- the situation of training puts trainers (professors, animators, instructors, etc...) face to face with people taught (pupils, participants, trainees, etc..) We must first try to know the ones and the others.
- the situation of training is also a place and a time where something occurs between the social actors who meet there. And we shall endeavour to observe what is happening and how it is happening.
- finally, it is around a "why" that are to be found gathered the other investigations, the object of which is to correlate the different elements drawn out by research, to reveal the combinations and the respective weights of the elements in these combinations of elements, without leaving out the reasons given by the social actors to justify the events (discourses on the practives).

For each of the questions asked, we must remember that the aim is to go from the most evident to that which does not let itself be seen, from what is most easy to grasp from the outside to what is the most profound ; we must also keep in mind that the investigation must tend towards building a heuristic model.

As soon as the first results are obtained through this research of an ethnographic type, other researches must be initiated, vaster, bearing on one or more aspects, the strategic importance of which will have been revealed ; these researches will have to be broadened so as to cover a certain number of educational organizations of the same type.

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42. The fundamental questions

Taking into consideration the systems of relations established between teachers and people taught, summing up the variations in the form, in the content and the duration of these relations, does not inasmuch exclude that questions be asked during the same time. This first "comprehensive" stage will have to be overtaken by a more analytical approach to the checking of the propositions based on the monographic studies.

Thus, - and this is the first question, will be determined the kinds of relationships that the different modern forms of education of adults have with economic and technical phenomena. This is not so much a historical analysis as a research of the conditions that seem to be necessarily tied to the development of training : in what measure, for instance, does the evolution of the methods of production (merging of firms, development of commercial departments etc...) cause an evolution of the training itself ? (1)

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- (1) Although it is always risky business to draw analogies between historic events, let us quote G.DUVEAU "Without trying to be too subtle about it, we must distinguish two moments, both to be found in the development of the great capitalistic production during the Second Empire. During the first one, a moment of fever, the manufacturer thinks above all of producing, of satisfying an ever-increasing number of clients, of modernizing his tools ; he does not stop to think of his human material . Then comes a period in which the industrialist has established his position The boss ('patron') is more concerned about the human or professional values ; ... wanting to have a personnel the morality and the technical competence of which will contribute to improve the production of his firm, he will take great care that his workers' families be properly brought up and educated."
 DUVEAU G. La vie ouvrière en France sous le Second Empire.
 1946, Paris, Gallimard, 605 p., p.440.

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The next question asked is about the legal boundaries and the structures of the education of adults at the present time. The present object is not so much a description, - which would be certainly most useful, but a testing of the hypothesis according to which the training of adults develops from a training "on the site of work" to an institutionalized education, a fact that would establish a true new right to continuing education.

The third question deals with the "ideals" mentioned while talking of the education of adults. DURKHEIM noted that the objectives laid down for the education were as many indications of the ideals of a society. "Reading" the various trends of pedagogical ideologies, discovering the differences and the overlappings proves to be necessary in this perspective, so that we might discover the ties that may exist between the pedagogical ideologies and other ideologies. It is thus that we can, for instance, examine the links between the ideology of human relations and some "theories" on the education of adults

Finally, we must also grasp the education of adults in all its different forms, as an element differentiating the various social groups : indeed, are there no variations in the training given to different groups ? Do not these differences indicate an attempt at gaining possession of training ? Without falling in a strict functionalism, it may prove an eye-opener to draw out, - even if only for a moment, the functions of the education of adults in different groups.

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Thus, this approach of the education of adults as an expressive cultural behaviour of the social groups sends us back once more, by a seemingly roundabout way, to the relationship existing between these groups. These questions on the roles, the functions and the meanings of training lead us also to explore the changes that the education of adults and the spreading of knowledge may bring about, because such an analysis cannot, of course, be made only from a static point of view but must also take into account the dynamic aspects of promotion, or of recession, of various changes.

Examining these different questions should enable us to draw out the multiple relations that may exist between the technical, economic, social conditions, the pedagogical ideologies and the practices under observation. This multi-dimensional study, - quite complex really, should enable us to decide on the different hypotheses developed from monographic studies. In this manner, this causal analysis would initiate a true sociological comprehension of the education of adults.

CONCLUSION

Education is a fact than can be described and studied, with the help of method and of sociological hypotheses. Durkheim in his time already stressed the importance of a real science of the education, the object of which would have been to know and the understand what exists, and to which sociology would bring an important contribution, not excluding other contributions, especially from psychology. We may think that, in the field of the education of adults, sociology can be a privileged recipient of this science of the education. Indeed, under extremely varied forms and with very different contents, the education of adults is intended for social actors,

- . who can quickly actualize its action in the daily occurrence of their productive and of their social life,
- . who have in different manners known the schooling system existing in their society, and who express attitudes or conducts in relation with this schooling system.

Considering these two characteristics of social actors affected by the education of adults causes us to make the following remarks :

- because of the first characteristic, research seems destined to meet problems linked with those of social change, problems appearing here with some particular date, such as for instance the urgency or the obligation felt ;

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- the second characteristic indicates that we must not neglect the relationship of reciprocity existing between research of the education of the young or of the adolescents, and the present research.

The education of adults opens up an extremely rich field of research, although we know only a few of the elements of this education.

After all, the principle of a thorough knowledge of the education of adults should not present a problem, for this knowledge makes possible a rational preparation of choices : as well as a rational utilization of the means in the fields of pedagogical action.

To know the type or types of men brought up by the educational system (in the wider meaning of social process) intended for adults, to know the needs this system must satisfy, the causes of its development, to know the tendencies toward change that educational purposes seem to have, all these elements are needed so that pedagogical meditation will be in a position to formulate some provisions or directives for action if this knowledge does not enable it to formulate a theory of the education of adults. Finally, it is not by suggesting purposes that such studies can be useful to the pedagogy of adults, but in enabling the educator to clear out his own aims and in enabling the organisations to become aware of their specific teleology.

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As for the psychological methods or techniques, nothing can justify the interest of such studies better than these lines written by Durkheim : "to be able to adapt, with understanding, the educational practices to the variety of particular cases, it is necessary to know to what end they tend, what the reasons are of the different processes that constitute them, their effects in the different circumstances..." These pedagogical practices have a history of their own ; they proceed from a general system of education which belongs to a given society at a given time : they reflect the tendencies of the system to change. Here also, the sociological study can ultimately lead to the pedagogical meditation on the means utilized."

The contribution of the sociology of the education of adults in formulating a science of the education must not let us forget its limitations with reference to the other sciences of man as well as with the very object of its study, an object "sliced" out of a larger whole that surrounds it and explains it.

The pedagogical meditation it may provoke should not either let us ignore the importance of the practice of pedagogy in the role it has in the progress of pedagogy. But, it seems that thanks to it the pedagogue will have a better knowledge of his aims and will be able to improve the means he has.

