

**CRITICAL THINKING AND INNOVATION IN
PRIMARY SCHOOL EDUCATION
IN TAIWAN**

**BY
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Abstract

Preparation for the twenty-first century presents Taiwan's education with a challenge and an opportunity. The challenge is to reflect upon the existing value system; the opportunity is to innovate.

The thesis has seven chapters. The first chapter deals with educational provision in Taiwan. The difficulties of teaching critical thinking in Taiwan are located in distortions of the educational function, the instrumental role of teachers and the traditional type of teaching and learning.

The second chapter looks at how education is framed by culture and society. A lack of autonomy is identified as the major crisis of education in Taiwan.

In the third chapter, the characteristics of critical thinking are shown in its four modes: the supernatural mode, the empirical mode, the subject-dialectical mode and the communicative mode.

In chapter four, a definition of critical thinking is given. It is suggested

that the commonalities of critical thinking are autonomy, dialectical development, multi-dimensional cognition, emancipation from alienation, and reconstruction.

In chapter five, a good life based on critical thinking is sketched out, which is made up of autonomy, harmony and reconstruction.

The task of chapter six is clarifying the distinction between education and indoctrination; and arguing that autonomy is an adequate criterion for distinguishing education from indoctrination.

Chapter seven is devoted to working out the principles for the teaching of critical thinking. It is suggested that these principles are those of emancipation, autonomy and reconstruction.

Overall, this thesis is aimed at developing a theoretical foundation for specifying what critical thinking is; assessing the specific cultural and educational obstacles to its introduction in Taiwan; and the thesis concludes with suggestions about how to put critical thinking into educational practice through evolutionary innovation.

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Introduction

This thesis arises, initially, out of the personal experience of the author (as a teacher in the primary school), out of the professional experience of the author (as a trainer of teachers in Taiwan), and out of the civic experience of the author, as a citizen of Taiwan in the present, rather interesting, times.

The author's concern with this topic arises, then, existentially. But as an academic, the author's concern with this topic is as a philosopher. What are the constituents and the process of a good life? What are the constituents and the process of a good education? What are the obstacles to both? What might be changed - at the level of philosophic principle - to secure either or both?

Thus, in reality, the author's interpretation begins with the details of primary school education in the socio-economic and sociopolitical contexts of Taiwan. In philosophic analysis, however, the author's interpretation begins in an anxiety to define the good life, a good education and the dimensions of critical thinking which are probably essential to both.

The author takes the concept of critical thinking from Habermas, who is a philosopher with a strong sociological vision of the good society. The thesis is not an application of Habermas (applied Habermas, as it were), but the thesis is suffused with Habermas' concepts and categories, and with the value system which Habermas himself espouses.

Although, educational activities will be examined, and the concept of critical thinking will be explicated in educational activities and life, this thesis is concerned more with theoretical research than with practical research. This is for two reasons:

- a) in Taiwan the theoretical foundation for education is underdeveloped compared with practical strategies: educational researches in Taiwan are always colonial, especially via the colonialism of the United States of America. For example, Dewey's educational theory was pervasive in Taiwan before 1960s. Then, the theory of accountability in teacher education has been enforced in Taiwan since 1960s. Educational theory grounded in Taiwan's educational practice has hardly been invented so far; and
- b) educational practice needs to be guided by educational theory: educational theory must be based on educational practice, while educational practice must be guided by educational theories. However,

educational theory must be taken as a priority, when such a theory needs to be clarified, or when educational practice needs to be reflected. In this sense, developing strong arguments as the theoretical foundation for critical thinking teaching must be appreciated in Taiwan, because the theory of critical thinking has not yet been established in Taiwan.

In Taiwan, pupils are more courageous than students or teachers in universities to appeal for their autonomy to the Ministry of Education (Lin, 1987, 101-103). This phenomenon makes the teaching of critical thinking starting from primary school education significant. This is also the reason why primary school education is the focus of my attention in this thesis.

In general, this thesis can be divided into three parts: a) reflecting critically upon education; b) investigating rationally the nature of critical thinking; and c) the concept of critical thinking is thoughtfully applied to education and life. However, practical strategies in education and life will not be mapped out, because it is assumed in this thesis that everyone is an autonomous person, so as to be able to exercise critical thinking in his own life.

Chapter I

**CONTROL AND CRITICAL THINKING IN PRIMARY
SCHOOL EDUCATION IN TAIWAN**

I. Control by the Ministry of Education

A. Educational Aims

B. Administration

C. Textbooks

D. Objectives in teaching

II. The difficulties of teaching critical thinking

A. The distorted educational function

B. The instrumental role of teachers

C. Teaching and learning of the traditional type

Conclusion

Chapter I

**CONTROL AND CRITICAL THINKING IN PRIMARY
SCHOOL EDUCATION IN TAIWAN**

Education is a complex consequence of the relation between culture, society person, and the institutionalisation of instruction. Primary school education is the foundation of all levels of education; and a good primary school education is the necessary foundation for a successful education in terms of human development.

Ideally, in order to comprehend educational activity, we must not only understand education in the school, but also reflect on its framings by culture and society. This task will be dealt with in chapter two.

In this chapter the emphasis is on an analysis of education in schools, along two dimensions, both of which affect critical thinking and the ability to develop it in a school system. Two dimensions are a) the control of the Ministry of Education; and b) obstacles to teaching critical thinking in Taiwan. The first dimension includes an analysis of educational aims, the pattern of administrative relations between schools, textbooks and objectives in teaching. The second dimension concentrates on the formal curriculum and blockages in the teaching of critical thinking.

I. Control by the Ministry of Education

The reason why the four elements (of educational aims, the administrative pattern, textbooks, and teaching objectives) are picked out is that they illuminate the question of who controls school education in Taiwan. In other words, examining these selected educational elements paves the way to reflecting upon the deep authority structures of education, which come from the framings of culture and society.

A. Aims of Education

The Manchu Government published the *Regulations Governing the Establishment of Schools* in 1902 (The Ministry of Education, 1988a). A number of things in these Regulations, and the pattern of the educational system, have been changed during the past ninety years (Yang, in Chinese Education Association (ed.), 1988, 280). These changes have come about because of the impact of scientific achievements in Western countries. In reflecting upon Chinese society, J. D. Chung, one of officers of the Manchu Government, suggested to the Government that Chinese education must be changed from the pure Chinese style, based in Chinese thought, toward the integration of Chinese culture with Western scientific knowledge and methods (Lai and Chi, 1977, vol. 2). The scientific achievement in Western countries seemed to offer the chance to develop the economy and industry; but to catch up in economic and industrial development, educational policy (including aims, the structure of the system and curriculum contents) needed to change.

All changes to this regulation since the end of the Ching dynasty have been intended to combine the Chinese systems of thought with Western (Yang, in Chinese Education Association (ed.), 1988, 276 - 280). Sun Yat Sen

finally made a synthesis of Western and Chinese thoughts to establish the theory of *The Three Principles of the People*. For the Chinese, this is a theory to improve the progress of Chinese nation and society. In his theory, Sun pointed out the principles of nationalism, democracy, and livelihood as guides for the reconstruction of China (Sun, 1923).

Chinese education has been directed by *The Three Principles of the People* since 1929 (*The Aim of Chinese Education*, 1929). In the contemporary period, Chiang Kai-shek claimed that "the theory of the Three Principles of the People is the model of education for the Chinese" (Chiang, 1974a, 65).

Since 1949, all levels of education in Taiwan must follow this Aim: the educational aim of *the Three Principles of the People*, under the guidance of the Central Government.

These aims claim that:

the purpose of Chinese education is to improve national living, to achieve mutual assistance, to develop national economic life and to prolong the life of the nation, so that we can attain, by all means, independence of the nation, democracy and a higher standard of living, and in the end, advance to an ideal world where harmony and equality prevail (The Ministry of Education, 1988a, 4).

These Aims of Education are clothed with political interest and cultural authority. The political interest pushes education to contribute to its economic policy, while the cultural authority yields ideas such as education for nationalism or collectivism.

Two notions which imply political interest, cultural and social authority are manifested in this aim. First, the foundation of these educational aims is based on the ideas of Sun Yat Sen. His ideas, grounded in principles of nationalism, democracy, and livelihood, are taken as the highest guiding principles for democratic society and human development in Chinese society (Sun, 1923).

Second, nationalism and collectivism are explicitly emphasised in the Aims of Education (The Ministry of Education, 1988a, 4). In contrast, individual development seems to be neglected. Under these Aims, education is assumed to help the individual to full development so that the individual can be used for improving the national standard of living.

Taiwan's Government has followed these principles since 1949. There has been a great economic progress in Taiwan, as shown by the improvement

in living standards. For example, general economic growth has continued since the 1960s, and the average rate of growth reached 9.6% during the 1960s, 9.7% during the 1970s and 7.8% during the 1980s (TAHR, 1989, 9); GNP per capita has reached about \$8000 in 1989 (The Executive Yuan, 1989).

However, the progress of aesthetic life and moral life in Taiwanese society is not necessarily identical to economic progress. Improvements of aesthetic life and moral life also need education to promote them. Yet, the Government is keen on economic development rather than improvements of the aesthetic life and moral life. In fact, the Government spent less on educational and cultural activities than on military defence. The proportion of GNP spent on military defence was 8.8% in 1986 (The Ministry of Finance, 1986; The Executive Yuan, 1987), while the proportion spent on education was merely 4% in 1987 (UNESCO, *Statistical Yearbook*, 1988).

The difficulty for educational reform in Taiwan is also caused by the political interest and cultural authority. The Government connects the political interest with cultural authority through practising the Three Principles of the People. That is, the Three Principles of the People is

taken as not only the unique but also the perfect theory (Chiang, 1974a). The Government of Chiang Kai-shek claimed that "the Three Principles of the People is the principle for saving our nation from destruction, therefore, education must not only be based on it but also contribute to reaching its purpose." (Chiang, 1974b, 956) In this sense, the Three Principles of the People is viewed as the highest guide no matter whether on political, economic, social or educational policies. Under such an ideology, the unique authority of the Three Principles of the people cannot be allowed to be questioned.

The notion of a unique authority can be accepted by the Taiwanese, partly because the Government spreads its political propaganda through legitimation, the mass media and education; partly because it is an ingrained ideology in Chinese thought. The Chinese believe that leadership is dispatched from Heaven, and to achieve harmony is the Way of Heaven (Confucius, *The Four Books; I-Ching*). Under this cultural ideology, the authority of the Government is protected and its orders are followed without question. Accordingly, education is taken as the tool for political propaganda, which has been shown in the educational aims.

B. Administration

In this section, the shape of the administrative system in Taiwan will be analysed in order to reveal the authority of the Ministry of Education. The current administrative system, according to the *Bureau of Statistics of the Ministry of Education*, is as follows, in Chart 1.1.

DIAGRAM REDACTED DUE TO THIRD PARTY RIGHTS OR OTHER LEGAL ISSUES

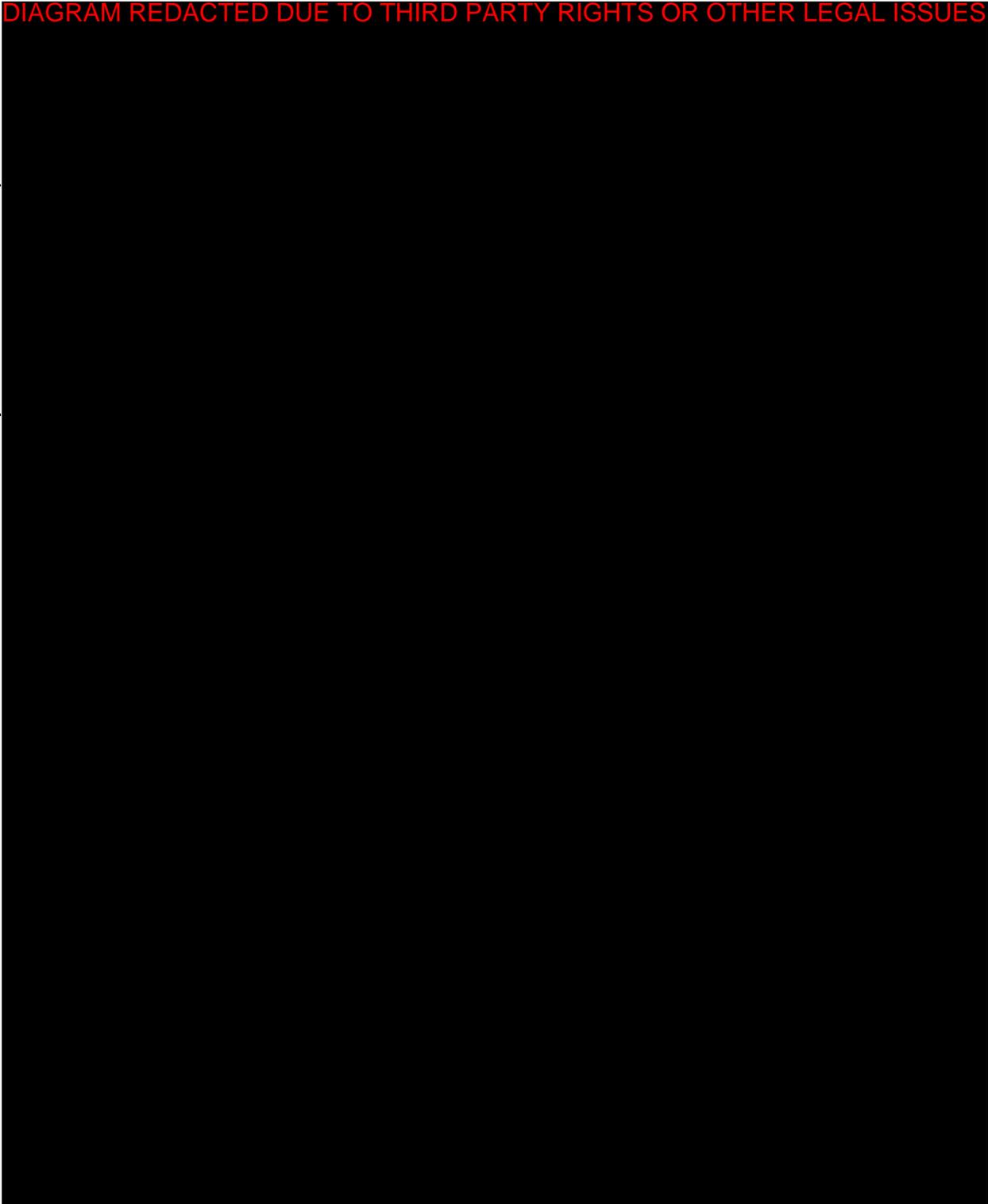


Chart 1.1 The system of education administration

source: The Ministry of Education, 1991, *Education in the Republic of China*, 8

The Ministry of Education controls all education in Taiwan. The control of administration over education in Taiwan is centralised. The Ministry of Education plays the decisive role in the development of the school. For example, educational aims, the qualification and numbers of students, the qualification, numbers and salary of teachers, textbooks etc. are controlled by the Ministry of Education. The lack of autonomy in schools can also be shown from the centralisation of the educational administrative system (Chart: 1.1).

The administrative system is established for educational activity. However, educational activities are dominated by the administrative system through setting regulations over it. According to the administrative system, the Ministry of Education in the central Government is the head of all educational administrations. Under the Ministry of Education is the Taiwan Provincial Department of Education. A Local Educational Bureau in each district or city is directed by both the Ministry of Education and the Taiwan Provincial Department of Education. The special municipalities, Taipei and Kaohsiung, each has a Bureau of Education, which is not directed by the Taiwan Provincial Department of Education, but by the Ministry of Education.

Take, for example, teacher education in Taiwan. Teacher education in Taiwan is controlled by the Government, in terms of its training institutions, curricula and numbers of students in Teacher Colleges or Normal Universities etc. All initial and in-service teacher training is carried out in specific institutions, i.e. Teacher Colleges and Normal Universities. Most primary school and secondary school teachers are trained by Teacher Colleges and Normal Universities for a four-year period, plus a one-year probation. Students for the Teacher Colleges and Normal Universities must be senior high school graduates and pass the entrance examination.

At present, there are three Normal Universities, and one department of education in a general university for training secondary school teachers. Besides, there are eight Teacher Colleges for training primary school teachers. Apart from this formal and traditional teacher education system, a PGCE programme, since 1988, has been offered by three Normal Universities for all graduates from general universities, where no teacher education courses are offered. PGCE students are prepared for secondary school or high school teaching, but they are not qualified for teaching in the primary school.

All institutions for teacher training are public, and the majority of primary schools in Taiwan are also public (Ministry of Education, 1989). Therefore, the financial and administrative affairs in all institutions for teacher training are controlled by the Ministry of Education.

In this way, the autonomy of Teacher Colleges and Normal Universities, is curtailed in matters of personnel, budget and even teaching and learning. Under such circumstances, the autonomy of the institution itself, the nature and the function of "enlightenment" in education are in question.

The domination over the school administration can also be shown from the range of the functions and duties of the Ministry of Education and its subordinate organisations. The Ministry of Education is in charge of all administrative affairs in education, e.g., the censorship and publication of academic research and works, matters of culture and education and so on (The Ministry of Education, 1988a). The Provincial Department of Education and the Special Municipalities' Bureaux of Education are separately responsible for educational and cultural affairs in the provinces and in the special municipalities (The Ministry of Education, 1988a): for instance, school education, the supervision of educational and academic

bodies, the planning and the administration of libraries, museums, and stadia, and other educational administrative affairs, e.g., matters of Personnel and Accounting. The Local Education Bureau takes charge of local educational administration (The Ministry of Education, 1988a). In general, the range of responsibility of Local Education Bureaux is limited to primary schools and secondary school (junior high school and parts of senior high schools).

Such a centralisation of educational administration dominates both school administration and the activity of teaching and learning. The school administration is controlled by the control of the finance and personnel; while the activity of teaching and learning is dominated through general Educational Aims, textbooks, and objectives in teaching.

C. Textbooks

There are two ways for the Ministry of Education to control educational activity through textbooks. One is that the Ministry of Education takes charge of compilation and publication of textbooks; the other is that the Ministry of Education has placed the National Institute of Compilation and Translation in charge of censorship (The Ministry of Education, 1988a).

All textbooks for the primary school are compiled, printed, and published by the Ministry of Education; some for the junior high school, e.g., English, Natural Sciences etc. are compiled and sold by book stores, after censorship by the National Institute of Compilation and Translation of the Ministry of Education.

The Ministry of Education prescribes the *Standards of Curriculum and Equipment* for all levels of schools. All textbooks have been compiled according to this *Standard of Curriculum and Equipment* (the Ministry of Education, 1975). For instance, all textbooks for primary schools, i.e. the textbooks on *Mandarin, Civics & Ethics, Health Education, Mathematics, Social Studies, Natural Sciences*, and *Music* are compiled in accordance with *the Standard of Curriculum and Equipment* (The Ministry of Education, 1975).

In addition, every subject has its own textbook for teaching and learning so that the contents of teaching and learning are also controlled. The ten subjects taught in the primary school, which are set up by the Ministry of Education (The Ministry of Education, 1975), are: *Civics & Ethics, Health Education, Mandarin, Mathematics, Social Studies, Natural Science, Music*

(*Singing & Playing* for the first two years), *Physics*, *Fine Art* and *Craft Work* or *Industrial Arts* (In the first two years, *Fine Arts* , and *Craft Work and Industrial Arts*, are integrated together into one subject.) (The Ministry of Education, 1988a).

Also, even the subjects without a textbook are controlled by the Ministry of Education. *Group Activity*, for instance, comprises extra curricular activities which are arranged on Wednesday afternoons. Pupils are organised by virtue of both their ages and interests to take part in activities, e.g., *football*, *calligraphy*, *extra-mathematics* and so on. The range of courses offered depends upon the availability of teachers in a school. The timetable is arranged by school's administrators. Yet, it must be also in accordance with the regulations of the *Standards of Curriculum and Equipment for Primary and Secondary Schools*.

The subjects and timetable can be seen in the Table 1.1.

Table 1.1 Teaching subjects and teaching hours

source: The Ministry of Education, 1991, *Education in the Republic of China*, 30

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The dilemma of educational control by the Ministry of Education is shown in its policy on textbooks. Textbooks are compiled and printed either by the Ministry of Education or the National Institute of Compilation and Translation, so that they maintain teaching and learning at a certain standard. On the other hand, this policy curbs the freedom of teaching and learning by putting constraints on teaching materials and time.

For example, given the system of entrance examinations, the educational objective is limited to preparing students for the entrance examination; and given the contents of teaching and learning in textbooks, educational activities are also narrowed into textbook knowledge. The academic standard is assumed to be maintained merely by asking teachers and pupils to teach and learn knowledge from textbooks, because the criterion for the academic standard is the numbers of students who pass the entrance examination.

D. Objectives in teaching

Primary school education in Taiwan implies that education is a tool for the development of society and nation rather than for the development of the person. The development of nation and society is the Government's

interest, and is carried out through the control of objectives in teaching.

Again, the authority of the Ministry of Education is revealed from the control of teaching objectives, in which the instrumental role is revealed. According to the Aims of Education, teaching in Taiwan must be guided by the Three Principles of the People. Every subject has its goal, and each subject has its subject objectives. These goals and objectives are prescribed by the Ministry of Education (The Ministry of Education, 1975). According to *The Standard of Curriculum in Ethics* (The Ministry of Education, 1975), for example, educational activity contributes to a common set of values at the expense of the individual goal. They are: *eight national moral virtues : loyalty, filial piety, kindness, love, faith, righteousness, harmony, and peace.*

According to the general goal of education (The Ministry of Education, 1975), basic knowledge and skills should be taught for earning a living, the people's productive power should be improved, and the life of the nation should be prolonged. Children are taught to keep abreast of the current international situation and to have a patriotic understanding. So, whether the aim of education is sufficient for a good life needs to be examined.

According to the above discussion, to seek autonomy for primary school education in Taiwan becomes significant for education in order to develop the human ability to plan a good life. The domination over school education in Taiwan has been seen from the control of the Ministry of Education over the educational aims, the administrative system, textbooks and objectives in teaching. Under such a domination, dysfunction, dehumanisation and depersonalisation become the obstacles for personal development.

In this thesis, the term 'dysfunction' does not mean that a function is corrupted, but that a process is distorted or dominated by political or economic interests, so that the aim itself might be missed. Similarly, the term 'dehumanisation' implies the domination of the instrumental interest, in which man might be alienated from himself.

To be precise, school education in Taiwan is dominated under a pseudo-universal principle or theory, and the administrative system has little room for schools autonomy; the activity of teaching and learning is limited to textbook knowledge. Self-realisation and self-actualisation are then narrowed into the instrumental level, while self-reflection is discouraged. All of these phenomena show that the teaching of critical

thinking has not been carried out in Taiwan. Apart from that, formally, there are no educational programme, curriculum or teaching on critical thinking. However, if the abilities of self-realisation, self-reflection and self-actualisation are important for personal life, then school education in Taiwan must be reformed to overcome the above controls and obstacles.

II. The difficulties of critical thinking teaching

In order to solve the problems of dysfunction, dehumanisation and depersonalisation of education in Taiwan, the school, first of all, must emancipate itself from the control of the Ministry of Education, and school education for autonomy needs to be struggled for. Then, reconstructing the school as the place for the enlightenment of mind can be insisted on.

At the moment, there is no teaching of critical thinking in Taiwan. Further, apart from the problem which emerges from the control of the Ministry of Education, there are a number of practical difficulties for teaching critical thinking in Taiwan. These are: a) the distorted educational function; b) the instrumental role of teachers; and c) teaching and learning of the traditional type.

A. The distorted educational function

A dilemma of education in Taiwan is shown from the conflict between the interest in political control and the function of education as enlightenment. As in Francis Bacon's motto, "knowledge is power", school education can be viewed as the reproduction of knowledge, i.e. power. The enlightened mind, being capable of inquiry and reflection, however, becomes a threat to political control. In this sense, education is a dilemma for the Government - on the one hand, the Government must develop people's learning skills in order to learn political propaganda; on the other hand, mental activity, unlike skills learning, cannot completely be controlled, but can lead to enlightenment so that its result is hard to predict.

In noting this dilemma, the Government tries to control educational activities, through the controls of the educational aims, administrative policies, textbooks, and teaching objectives, in order to control mental development. As a result, the functions of school education may either be distorted or damaged, through political propaganda or power. Education in Taiwan is an example.

The distorted functions of education in Taiwan can also be analysed from

the fact that educational activity is defined by the preparation for the entrance examination. This instrumental rationality can be shown from the phenomenon that pupils are keen on studying in the private school in order to enter the public high school or university by passing the entrance examination.

Private primary schools hold an entrance examination system for children who would like to study in the private school. Before the high school level, the private school is taken as a better place than the public school to prepare for the entrance examination. In order to pass successfully these entrance examinations, pupils and parents look for a good 'place' to study.

According to the statistics of education in Taiwan (The Ministry of Education, 1988a), most primary schools are established by district/city or special municipalities, while most kindergartens are established by individuals or affiliated with district/city elementary schools. Children of six years of age or over have to attend a local primary school without taking any entrance examination, unless they prefer to enter a private school. After six years of primary school education, children are encouraged to enter the junior high school without taking any entrance examination. Private schools however have an entrance examination,

because they can accommodate merely limited numbers of pupils. After the junior high school, students must pass the entrance examination in order to study in any level of school beyond the junior high school level.

The private school gains more freedom than the public school in preparing students for the entrance examination, because the control of the Ministry of Education over the private school is less than over the public school. That is, the matters of finance and personnel in the private school are more independent than in the public school. In this way, the private school wins more autonomy than the public school, in terms of school administration and the activity of teaching and learning.

However, the private school does not cherish its autonomy as an opportunity to strive against the instrumental rationality in education. On the contrary, the autonomy is abused in order to achieve successfully the purpose of preparing pupils for the entrance examination. The private school in Taiwan wins a good reputation by showing its successful achievement in terms of the numbers of pupils who pass the entrance examination.

The policy of the entrance examination distorts the function of education,

i.e. from the enlightenment of reason towards preparation for the entrance examination by limiting the room for individual development. Only pupils who pass the entrance examination can study in the senior high school, college or university. Therefore, pupils, teachers and parents are keen on textbook knowledge. On the other hand, personal developments, e.g., the establishment of a value system, autonomous capacity and disposition etc., are neglected in school education in Taiwan. The system of entrance examinations depersonalises pupils by imposing textbook knowledge on pupils' minds, and through examination.

Under such circumstances, it is hard for children to be themselves. They 'realise' that their abilities must be shown from the result of the examination; their responsibility both for their parents, schools and themselves lies in passing the examination they need to take. Consequently, children will be strange to themselves, in terms of 'who I am'.

The difficulty of teaching critical thinking is shown in the instrumental purpose of education in two ways. One is that school education is limited to either the political purpose or economic purpose. School education, therefore, aims at operating effective skills for the instrumental purpose, which has been shown in the Aims of Education. The other way is that

both teachers' and pupils' interests are narrowed into the instrumental dimension rather than the aesthetic and reflective dimensions, which has been revealed in the boom of entrance examinations. There is no room for school education to develop pupils' abilities of reflection, e.g., through the teaching of critical thinking. Being keen on the entrance examination shows the interest in the merely instrumental purpose rather than in the purpose of pursuing a rational life. Therefore, the teaching of critical thinking in Taiwan will be viewed negatively, from the view of pursuing the instrumental purpose, including the political and economic interests.

B. The instrumental role of teachers

The instrumental roles of education for political, social and personal interests have been discussed. Here, the instrumental role of teachers in educational activity in Taiwan will be revealed. It will be assumed that teaching critical thinking would be hard to carry out if teachers lack critical thinking.

Apart from teachers' dispositions, three causes for primary school teachers in Taiwan lacking critical thinking are: a) a negative ideology dominates teachers' ability of reflection; b) the social value system intensifies their

instrumental interests; and c) the pressure of survival needs leads them not to struggle for autonomy. The first cause, as has been discussed, dwells upon the control of education by the Ministry of Education. The second cause has been revealed in the administrative pattern, which carries the political interest and cultural authority. Here, the third will be emphasised.

The pressure of survival occurs to primary school teachers in Taiwan in two aspects: spiritual and physical aspects. The spiritual aspect of suppression comes from cultural and social value systems, for example, the role expectation from society and culture. With the value system of Confucianism and under the domination of teacher education in Taiwan, primary school teachers are cast in the role of messenger between the Government and education. (The value system of Confucianism will be analysed in chapter two.) They are neither the people who reflect upon educational activities nor the people who directed the educational policy. As a result, primary school teachers in Taiwan are not expected to be critical thinkers.

The physical aspect of pressure results from their burdens of teaching and extra-teaching jobs. These burdens can be shown concretely in the jobs they bear in the school. According to the regulations of the Ministry of

Education and Local educational Bureaux, primary schools teachers have to stay in the school, at least eight hours each weekday and four hours on every Saturday. In fact, they always stay in schools for more than eight hours a day, from 7:00 am to 4:30 pm. There are about 250 school-days in an academic year. In addition to teaching, teachers have to act as administrators, (for example, every teacher needs to take some responsibility for the administrative affairs of his school and classroom, e.g., as treasurer, personnel officer, etc.); as school nurses, e.g., collecting children's urine samples, and recording children's condition of health; as traffic wardens to supervise the safety of the children going to school and going home; as caretakers of their own schools during vacation times and so forth.

The ratio of teachers to pupils is still too low to remove this over-loading. According to the *Index of Educational Statistic in Taiwan* (the Ministry of Education, 1989, 14), the numbers of teachers were 56,348 in the 1968 academic year, whilst there were 77,892 in 1988. The numbers of elementary pupils were 2,383,204 in 1968 whereas there were 2,407,166 in 1988. The ratio of pupils to teachers, on average, was 42.29 in 1968, 30.93 in 1988. This ratio includes the numbers of teachers who engage in administration, and those who teach specialist subjects. In fact, the average

numbers of pupils in a classroom which a teacher has to take charge of are about 43. Thus, a primary school teacher, in particular, for the first two years, has to be in charge of 43 pupils.

In such a situation, all teachers' thinking is caught up in their immediate tasks, because they are over-loaded with their work. Therefore, it is difficult in such circumstances for teachers to think about questions such as, what is the role which teachers should play in school teaching? what is the nature of educational activity? and so on. It is also difficult for them to pay attention to pupils' individual development. In other words, teachers cannot pay much attention to improving either their own self-realisation or pupils' self-realisation. Therefore, the teaching of critical thinking, understandably does not come to teachers' minds under such circumstances.

C. Teaching and learning of the traditional type

Tradition is an authority, by which enlightenment of mind might be hampered. For example, during the period of Spring-Autumn and Warring States (770-221 B.C.), when China was in a state of chaos, there were hundreds schools of thought, which were different from Confucianism, e.g., *Ying-yung-cha*, *Farmer-cha* (the term '*cha*' means a

school of thought).

From the viewpoint of enlightenment of reason, the period of Spring-Autumn and Warring States could be a flourishing period for enlightening human mind. However, psychologically and partly because people preferred to live in a stable society; partly because the emperors(*Chin-Shi-Hung*), and one of the officials of the Han dynasty (*Tung, Chung-shu*) intended to unify all thoughts into one, an orthodoxy was needed. Confucianism has been occupied a dominant position since then. This is a case that the ideology of 'unification' hampered the development of diversity.

Traditional authority revealed from the cultural heritage will be examined in chapter two. Here, the traditional types of teaching and learning in Taiwan will be criticised, because they cause difficulties for the teaching of critical thinking in two ways: curricula and the methods of teaching and learning.

First, it is hard to teach critical thinking via "formal" teaching with a formal textbook in Taiwan. The subjects and their textbooks are controlled by the Ministry of Education, and their contents are distorted as an

instrument for the political interest, economic interest and cultural authority. Further, the purpose of teaching and learning is constrained to preparation for entrance examinations, and "memory" becomes the most important ability to be trained and learned in the school. This kind of school education assumes that the achievement of learning must be assessed by the amount of knowledge which children can reproduce or repeat from what they have memorised.

Second, traditional authority can be explicitly seen in the pattern of teaching and the format of the classroom. For example, the organisation of the classroom shows a formal organisation in which desks are arranged row by row and pupils are asked to keep their desks in order. This format carries an authority of which everything asked by teachers must be followed in the school. It implies that pupils' freedom must be limited. This claim does not mean that pupils' freedom should not be limited to the range of what can be accepted by the teachers or the school, but is concerned with the pupils' autonomy. Such a teaching pattern and the classroom format manifest the dehumanisation and depersonalisation in the primary school education in Taiwan.

It is hard for the good of the enlightenment of reason to be reached

through traditional types of teaching and learning. Traditional lectures are generally used in order to make time for the huge amount of material to be taught. Pupils' minds cannot be enlightened simply by imposing learning materials on pupils' heads, but by stimulating their skepticism, by fostering their abilities of self-reflection, and by encouraging their autonomy. In this sense, traditional types of teaching and learning in Taiwan are far from reaching the goal of teaching critical thinking.

Teaching for critical thinking is not teaching the knowledge of the materials in textbooks, but teaching and learning in and by thinking, viz, teaching and learning through self-realisation, self-reflection and self-actualisation. If teachers acknowledged the significance of teaching critical thinking, they could use teaching materials relevant to pupils' lives, rather than ones adapted to the service of examination success; they could also be keen on enlightening pupils' minds rather than on accumulating their knowledge. These differences in the kinds of teaching materials and methods used show the differences between teaching critical thinking and non-critical thinking teaching. (This difference between these two kinds of teaching will be discussed a step further later on, where the concept of indoctrination will be analysed.)

In sum, the dysfunction, depersonalisation and dehumanisation of education in primary school education hamper the teaching of critical thinking in Taiwan. For teachers, over-loading and social pressure push them to teach without thinking, while for pupils, traditional authorities, including teachers' authority and the social value system, also push them to learn without thinking. Given that these problems have not been solved, the teaching of critical thinking is hard to carry out successfully in Taiwan. In fact, it is also hard to achieve even these educational aims, which are set up by the Government, i.e. cultivating in all pupils capacities in ethics, democracy, and scientific knowledge, so as to celebrate the Chinese culture and heritage; and developing their potentials as the resources for the reconstruction of Taiwan as a bastion of national recovery (The Ministry of Education, 1988a, 15).

However, the subjects of education are teachers and pupils. If education functions merely as an instrument for politics, society and the state, then any educational reform would merely transfer education from one straitjacket to another. Nevertheless, while pursuing the overall aim, education can create its own objectives, especially for personal development and growth.

There are three possible results of teaching and learning: a) pupils learn merely textbook knowledge or political propaganda, for example; b) pupils not only learn textbook knowledge or political propaganda, but also develop their reason; and c) pupils reflect upon textbook knowledge or political propaganda through their enlightened reason.

'Reflection' here does not mean necessarily rejecting, but examining knowledge via thinking critically before accepting it. In this sense, the significance and the importance of critical thinking are revealed from the third possibility. (The teaching of critical thinking will be dealt with in chapter VII.) Given human power of reflection (enlightened consciousness), education itself can win its autonomy through reflection upon itself. This is the starting point of education reform.

Conclusion

In shedding light on the domination of primary school education by the instrumental rationality and negative ideology, resulting from the political and economic interests, and cultural authority in Taiwan, critical thinking should be helpful and necessary for the Taiwanese to develop children's minds.

Even though there are difficulties in teaching critical thinking in Taiwan, teaching for critical thinking is still possible, if the domination of education can be emancipated from the yokes of political and economic interests, and of cultural authority, and if the obstacles to teaching critical thinking can be dismissed.

In order to solve the difficulties for teaching critical thinking in Taiwan, a number of things need to be undertaken. All educational activities which are dominated under the political power and limited to the instrumental interest must be reflected upon. For example, *The Aims of Chinese Education*, which is the unique principle for teaching but is coloured with political interest and cultural authority, must be reflected upon critically. Also, the rationality of the control of education from the Ministry of Education needs to be examined. The criterion for the academic achievement of education needs to be analysed.

In other words, the criteria of quantity, e.g., the ratio of students who pass through examination, and the instrumental goal of education and so on must be reflected upon. For instance, the quantity of schools has been expanded since 1951: the number of schools has increased from 1,504 in

1951 to 6,628 in 1988, and the number of students from 1,054,927 in 1951 to 5,123,742 in 1988 (Ministry of Education, 1988a, 1). Yet, whether such an achievement can be sufficiently taken as the criterion for the progression of education in terms of human development is in need of further analysis.

Further, if teachers and pupils were to think with their own minds, instead of swallowing all the materials they are given like a sponge, then there would be no necessity for a person to isolate individual development from social or national development within educational activity. In this sense, teaching critical thinking can be carried out in Taiwan to awaken teachers' and students' minds without causing conflict between personal development and the social and cultural value systems.

In addition to reflection upon the aims of education, the administrative pattern, textbooks and teaching, the deep structures of education, viz., cultural and social framings, will be examined in order to understand educational activity, and then to offer adequate recommendations for educational innovation in Taiwan. This will be the focus of the next chapter.

Chapter II

**THE ISSUES OF PRIMARY SCHOOL EDUCATION
IN TAIWAN**

I. The educational framing of non-critical thinking

II. The cultural and social framings of non-critical thinking

A. The mysterious power of Heaven

B. The legitimate authority

Conclusion

Chapter II

THE ISSUES OF PRIMARY SCHOOL EDUCATION IN TAIWAN

With the development of industry, and with changes in the social structure, education must meet the demands of innovation, within the particular cultural and social contexts of Taiwan which have undergone a very rapid growth of the economy, and tremendous changes in social structures.

As was mentioned in chapter one, two aspects need to be studied to investigate educational activity: surveying educational activity itself; and

penetrating into the deep structure of the educational activity by the use of hermeneutical methodology. The first aspect has been dealt with in chapter one. Here, two tasks will be dealt with in this chapter: first, pinning down the instrumentality of education and its consequences; second, examining the framings which culture and society give to non-critical thinking. I use the term non-critical thinking for the predicaments of education which come from the yoke of authority or an unemancipated instrumental rationality.

I. The educational framing of non-critical thinking

After analysing the control of education and the difficulties of teaching critical thinking in the first chapter, the educational framing of non-critical thinking in Taiwan needs to be tackled, so as to cope with the demands of society by achieving two tasks of education: enlightening people and strengthening their ability for reflection.

The intention of this section is to reveal patterns of non-critical thinking in Taiwan by analysing the aims and goals of education, and the roles of teachers and pupils in schooling.

The roots of non-critical thinking in Taiwan lie in Confucianism. Confucianism has occupied a position in the mainstream of Chinese thought since the Han Dynasty, when Tung Chung-Shu set up Confucianism as the main philosophy and abolished others (Yu, 1960). Since then, Confucianism has become an orthodoxy in Chinese culture and society, and its thought and works have affected the teaching materials in school education. This influence can be seen in textbooks for primary school education, especially, *Social Sciences, Chinese* and *Civics* (The National Institute of Compilation and Translation, 1990a; 1990b; 1990d).

Traditional authority and social legitimation have penetrated into educational activity in Taiwan. The general aims of education have been affected by political and economic interests and cultural authority, as indicated in chapter one. Also, they can be shown in subject objectives (The National Institute of Compilation and Translation, 1990a; 1990b; 1990d), because subject objectives must be in accordance with the Aims of Education (The Ministry of Education, 1975).

The phenomena of non-critical thinking, in terms of instrumentality - and dysfunction, dehumanisation and depersonalisation - can be revealed from the objectives and contents of textbooks:

According to *The Standard of The Curriculum For The Primary School*, each subject has three general goals: knowledge, morality and politics. (The Ministry of Education, 1975) The political interest, the cultural authority and the instrumentality of primary school education in Taiwan are shown in the goals and contents of subjects which are required for pupils.

For instance, main subject goals for Chinese are:

- a) imposing on children the concepts of morality, democratic attitudes and scientific spirit;
- b) inspiring their patriotism;
- c) spreading Chinese culture;
- d) cultivating their abilities of logic and correct thinking; and
- e) cultivating their abilities of listening, speaking, reading and writing (The Ministry of Education, 1975, 1 - 2).

Goals for Civics are:

guiding children to learn the rules of family life and social life in order

- a) to establish the foundations of their behaviour;
- b) to revere the aged and show filial piety to their parents;
- c) to propagate traditional Chinese virtues;
- d) to develop morality;

- e) to inspire patriotism, particularly anti-communism, especially anti-Maoism;
- f) to cultivate good manners, to establish the correct value system, and to improve their knowledge and abilities, so as to train them as good citizens (The Ministry of Education, 1975, 1).

Subject goals for Social Sciences are:

training good manners, behaviour and habits in daily life; and teaching pupils the knowledge and abilities about the personal relationships of social life which are necessary if their behaviour is to be adapted to modern society, and they are to carry on Chinese morality; training children to become good pupils and patriotic citizens. (The National Institute of Compilation and Translation, 1990b, 2)

Goals for Music for the first two years of primary school pupils are:

- a) developing children's physical and mental aspects;
- b) inspiring children's interests and abilities in Music;
- c) developing children's interests and abilities in sports (In the first two years physical training and music are combined.);
- d) cultivating children's habits; and
- e) establishing children's social habits, including Confucian morality and

patriotism (The National Institute of Compilation and Translation, 1990c, 3).

Subject goals for Art and Craft are:

- a) guiding children to use both their hands and minds;
- b) cultivating children's creativity;
- c) inspiring children's abilities and interests in art;
- d) increasing children's abilities of imagination, thinking, planning and problem-solving;
- e) cultivating children's social manners and habits, including cooperation, industry, autonomy in order to provide services for social products; and
- f) teaching children to acknowledge Chinese traditional arts, in order to dignify their high aspiration to publicise Chinese culture (The National Institute of Compilation and Translation, 1990b, 6).

According to the above subject goals, primary school education in Taiwan has been taken as a tool for preserving traditional Chinese culture; for preparing labour power for Government and society; and for maintaining the social status quo. Each subject has objectives for cultural, social, political and economic interests:

- a) cultural and social interests: namely, collectivism, Confucian morality,

e.g., cooperation, filial piety, obedience and harmony with society etc;

- b) political interest: namely, patriotism, anti-communism, 'good' citizenship etc.
- c) economic interest: namely, contributing to future labour power, adapting to modern society and handling personal relationships etc.

These objectives might improve children's knowledge and abilities for their social life, but the problem is that children's individual lives might be isolated from these objectives. This problem results from two strategies. One is that these goals are set up by scholars, teachers and administrators without the participation of children; the other is that the goals for education emphasise instrumental rationality, in particular, the cultural and social aspects rather than the individual aspect.

For example, parts of subject goals for Music and Art & Craft seem to be to inspire children's interests, and to cultivate and improve their abilities of creativity, imagination, thinking, planning and problem-solving etc.; however, the aim for these objectives lies in adapting to social codes or in propagating Confucianism instead of building up children's abilities for self-knowledge, self-reflection and self-actualisation. Further, the so-called 'good citizenship' is measured in terms of cultural, social, political and

economic interests, without taking children's judgments into account.

The contents of textbooks also contribute to instrumental rationality. For example, more than half of the textbooks of Social Sciences are aimed at cultivating collectivism, patriotism, Confucianism and economic interest (The National Institute of Compilation and Translation, 1990a, vol. 3-6). Moreover, the individual life is weakened in Civics, while collectivism is over-emphasised in eighteen units of Confucian morality. The eighteen units as contents for Civics are: industry, social manners, patriotism, forgiveness, social morality, faithfulness, cooperation, obeying laws, justice, friendship, bravery, filial piety, neighbourliness, frugality, being shamed, responsibility, perseverance, and peace and harmony (The National Institute of Compilation and Translation, 1990a, vol. 3-6).

Self-realisation is distorted by the monological form of educational activity. According to the above analyses, primary school education in Taiwan is far from the nature of autonomy, in particular, personal autonomy. (The nature of autonomy will be analysed in chapter five.) Such an education seems to persuade people to believe that all tradition is good for both the individual and society, and the significance of the individual is subordinated to the development of society rather than the

individual himself. The monological form of educational activity can be shown in teaching methods and materials, by which education is separated from pupil's life.

Children struggle when they enter society, because they cope with conflicts between tradition and modernisation, and between the individual and society. Children have few experiences to make a dialogue between their own lives and the knowledge they learn from the school. It is in this sense that the knowledge they learn from schooling is merely monological knowledge, while dialogical knowledge must be acquired through self-reflection, and must be integrated with children's cognitive styles into their own value systems.

In this way, children merely learn from textbooks and teachers, instead of learning from the interaction between the knowledge they are presented with at the school, and the knowledge they have of their own lives via self-reflection. This increases children's inability to establish their own value system and to make proper choices for their lives.

Further, both in the family and in the school, children are merely viewed as immature people. Therefore, they are asked to follow whatever parents

and teachers say. In other words, children are merely asked to memorise rather than to think. The contents of textbooks are then designed around description rather than hypothetical problems or argumentation (Tran, in Chang (ed.), 1988, 90).

Learning without application is the major dissatisfaction with education in primary school education (The Central Daily News, Jan., 30, 1991). After investigating the dissatisfaction with education (Tran & Wen, in Chinese Education Association (ed.), 1988, 203, 204, 207; Tran, in Chang (ed.), 1988, 83; Yang, in Chinese Education Association (ed.), 1988, 54; Li, in The Central Daily News, Jan., 30, 1991), the Government and scholars confirm that the crucial cause for educational dysfunction is that pupils are unable to apply what they have learnt in their lives. Accordingly, the director of the Taiwan Provincial Department of Primary Education, L. F. Lin, demanded that teachers should concentrate their teaching upon *learning to practise* (Central Daily News, Jan., 30, 1991).

In principle, it is hard, if not impossible, to ask or help pupils to put what they have learned from the school into practice under the following modes of teaching and learning:

a) gathering and recalling data/knowledge without combining it with

practical life;

- b) responding to knowledge without making sense of it;
- c) learning and reciting knowledge without reconstructing it into individual cognitive styles of thinking;
- d) being praised, verbally, for saying "um-hmm", "yes", "I understand" without giving individual reasons for or against;
- e) slavishly being required to follow "standard answers", which are presented in textbooks without empowering individual thinking ability; and
- f) telling, describing and explaining to children without getting back their analyses, critique and reflection.

These phenomena exist in practice as well (Tran, in Chang (ed.), 1988, 81; Ou, 1991, 4). For example, learning activities are divided into a number of concrete categories for teaching and for testing of "what children 'know'; what children perceive; and what children have done" (The National Institute of Compilation and Translation, 1990d; Ou, 1991,4).

Emphasising merely school knowledge narrows the range of learning (Chang, 1988, 231). As a consequence, "children become the consumers of knowledge, while teachers are the retailers" (Chang, 1988, 234). This

implies that children are taken as machines to produce already designed outcomes, rather than being encouraged to establish their own value system.

Such an abstract learning without application is one problem - and a bad one. Learning without thinking is a more fundamental problem in primary school education in Taiwan than learning without application. Learning without application, might leave children to face their real life in panic, while learning without thinking can crush the ultimate aim of education - human development in terms of the enlightenment of reason - by addling children's minds.

Four educational phenomena of non-critical thinking can be shown through reflection upon the roles of teachers and pupils, teaching materials, and administrative systems.

First, most teachers in the primary school have work overloads. They must commit themselves to prepare their pupils for examination; to check pupils' homework; to put effort into in-service training courses in order to be promoted; to be forced to do many jobs auxiliary to teaching, e.g., as a treasurer or nurse in a class.

Teachers are expected not to complain about their situation, in order to maintain a good model for society in terms of the traditional teacher's pattern. The traditional pattern for good teachers in Taiwan is as Passmore described. That is,

they (the teachers) teach precisely the subjects named in the curriculum, guiding themselves by the textbooks in use and attempting to smooth the path for the children; they obey cheerfully the instructions issued by superintendent and principal, in so far as they can understand them.
(Passmore, 1980, 172)

Teachers are used to obeying rather than questioning; to hiding individual queries and puzzles rather than expressing themselves authentically. Accordingly, they have learned that to conform with, not to question, all orders of the government or administrative powers will lead to keeping their position and being promoted, through keeping a harmonious relationship with the principal or the government. As a result, teachers alienate their teaching from their life, and in this way, they lack a sense of commitment to their teaching. For themselves, teaching is then merely taken as the tool for earning a living rather than an art of human development.

Second, learning is alienated from the lives of pupils. Learning by reciting is the typical type of learning in Taiwan, which can be revealed from the measurement of the achievements of learning (Chang, 1988, 231; Ou, 1991, 4). Children are discouraged from discussing or inquiring. However, both teachers and pupils are pleased with such a method of teaching and learning (Tran, in Chang (ed.), 1988, 81), partly because reciting materials, for example, can save time when cramming for the examination; partly because both of them are used to coping with definite answers, rather than with open-ended forms of enquiry.

Children's potentialities are weakened by asking them to obey rather than to criticise; to memorise rather than to think; to imitate rather than to create and so on. These phenomena* can be assumed universally to exist in nearly every primary school in Taiwan, due to the policy of the entrance examination, so that the argumentative type of teaching and learning in

* P.C. Chang, an associate professor in Taiwan Normal University, points out that "the policy of entrance examination in Taiwan lacks cognitive perspective, worthwhileness and voluntariness, in R. Peters' terms" (Chang, 1988, 217). Earlier than Chang, C. S. Chung, a professor of Taiwan Normal University, claimed that "students take the entrance examination as the unique aim of education...even though everyone criticises it, however,

which pupils must work out their own reasons for or against answers is less popular in Taiwan than lecturing, listening and reciting, which are traditional types of teaching and learning (Tran, in Chang (ed.), 1988, 80).

Also, the educational alienation of pupils results from the fact that the traditional virtues, e.g., obedience, forbearance, silence, conformity etc. are over-emphasised in education. In Taiwan, so-called good boys or girls are those who do everything they are told and act as directed, and all so-called good pupils are those who listen to rather than speak to, answer rather than question, conform rather than argue, obey rather than rebel, etc. It does not mean that these traditional virtues themselves are necessarily damaging to people's self-consciousness. Rather, learning these

schools, parents and society are intent on passing through this examination" (Chung, 1982, 21). Actually, the weakness of this policy has been noticed for at least twenty years. The articles reflecting upon this policy, for example, are:

- a) Bou, J. C. (1971), 'Reflecting upon the Entrance Examination', in *Taiwan Education*, vol. 244.
- b) Chun, L. D. (1974), 'The Improvement of the Entrance Examination', in *The Collection of Yat-Sen Academic research*, vol. 14;
- c) The Ministry of Education (1982), *The Research Report on The Improvement of the Entrance Examination*.

virtues without reflecting upon them is the key cause for weakening children's ability of self-reflection.

Such 'good' children will become 'good' citizens in a society. They are just the people with neither mind nor independent thinking, viz., either without self-consciousness or with false-consciousness. In this sense, education damages not only the individual but also society and the state.

The Government has tried to improve the quality of education, by adopting educational theories from western countries. For example, it has accepted Spencer's idea that "children ought to be educated according to nature" (Passmore, 1980, 8); appreciated Herbart's notion that "the object of education is to produce good characters by means of instruction"; and transplanted Dewey's idea that "education should proceed by practical instruction in the affairs of life" (Passmore, 1980, 8).

These notions are put into some subject goals for primary school education. For example, one of the teaching goals for *Art and Craft* is adapting teaching to the physical and mental development of children (The National Institute of Compilation and Translation, 1990b, 6). The main teaching goals for *Social Sciences* are developing children who have good

characteristics including attitudes, behaviours and habits...in order to adapt to modern social life and so on (The National Institute of Compilation and Translation, 1990b, 2; The Ministry of Education, 1975). Children's interests and abilities are taken as parts of the teaching objectives of *Music*: "developing children's interests and abilities in music (The National Institute of Compilation and Translation, 1990c, 3). However, the ultimate aim of education is still rooted in instrumentality, which can be shown from subject goals in which cultural, social, political and economic interests dominate educational activity.

The idea of child-centred education, the ideas of "problem-solving teaching" and "inquiry learning" etc. have been in fashion in Taiwan (The National Institute of Compilation and Translation, 1990b, 6). The Government asked the Institute of In-service Teacher Training for Primary and Secondary Schools to design and offer courses for in-service teachers in order to introduce and develop these educational ideas (The Ministry of Education, 1980). This programme implies that the educational innovation is part of Governmental policies on education.

Although this programme has been underway for ten years, its contribution to ability for reflection seems not to be confirmed yet (Yang, in the

Chinese Education Association, 1988, 54; Li, 1991, in the Central Daily News, Jan., 30), because the instrumentality of education has not been changed so far. The reason for the unchanged predicament is that education is still fettered by the yoke of political and social interests or cultural authority.

Children are still dominated by the external value system, e.g., heritage or social codes. Children might be encouraged to participate in their community life, to contribute to the reform of their own lives and society, to improve their social relationships, and to exercise their capacities efficiently, but they are taught not to reflect upon governmental policies, social systems and traditional culture from a negative viewpoint.

In contrast, children just think from one dimension. They are encouraged to exercise critical thinking only in a way which is positive regarding the merits of culture, society and the state. Children are still doing what they are told. This sort of thinking is called one-way thinking.

Two issues could be raised from such one-way thinking. They are: a) is one-way critical thinking possible? and b) why cannot new methods which have been carried out in Taiwan genuinely promote critical thinking? In

order to answer the first question, the nature of critical thinking needs to be clarified. This will be dealt with in the next chapter. It will be claimed here that a critical thinker should examine not only the rationality of his own knowledge, but also that of other persons' knowledge; a critical thinker should question not only his previous value systems, but also his present value system. Critical thinking should be a continuous process of reflection. On these accounts, one who thinks over things from merely one point of view cannot be called a critical thinker. One-way thinking is not sufficient to meet all these criteria for critical thinking.

The second question is: why do some methods in the educational reform in Taiwan, designed to stimulate pupils' thinking, have little effect on promoting critical thinking? The explanation lies in the dominated situation of education and the lack of autonomy of teachers and pupils. The enquiry method, for example, is merely taken as a tool for promoting cultural, social, political and economic interests rather than for establishing pupils' value systems, as have been analysed where subject goals are discussed.

Educational reforms of teaching materials and methods are not made for developing the ability of autonomy with pupils' own resources and their

own objectives. For example, the contents of *Social Sciences* have been concerned not only with children's interests and their lives, but also with knowledge about economy, politics, society and culture. Also, teaching 'how-to-think' has been emphasised (The Ministry of Education, 1991, 1). However, all contents and methods aim at reaching the subject goals of "...practising Chinese traditional morality, behaving as good children and patriotic citizens" (The Ministry of Education, 1991, 2).

From the above analysis, the Government has not abandoned taking education as a means for political and economic interests. Instead of promoting human ability for reflection, educational activity will serve as the tool for politics and the economy. Accordingly, school falls short of autonomy when it becomes an instrument and when its aim is full of instrumentality. The function of education will be distorted or reduced, once educational activities are controlled by instrumentality.

This distortion of education will damage children's potentialities, especially the abilities of creation and reflection. For example, if the entrance examination is taken as the most delicate sifter of the elite of schools and society, and children's abilities are measured by how much they remember, then individual development will be measured by ability to pass the

examination by virtue of memory. In this sense, individuals are forced to meet external criteria rather than their own criteria.

Wilson confirms this interpretation of educational phenomena in Taiwan. He argues,

in Taiwan considerable effort has successfully been expended through the educational system to reinforce a congruence between styles of authority in primary groups and those that exist between citizens and political leaders. Knowingly, or unknowingly, the patterns of authority that have been taught have been conducive to political stability.... Educational development has been characterised by a great mass of teachers cooperating effectively in inculcating in children support of the government. (Wilson, 1974, 146)

More general than Wilson, Habermas analyses the processes of alienation, and why education alienates teaching and learning from lifeworlds. According to his analyses, a judicialization and bureaucratisation have penetrated deep into the process of teaching and learning, and individual responsibility and freedom can be broken down by them (Habermas; McCarthy (trans.), 1987, 371). His analyses are as follows:

...the medium of the law comes into collision with the form of educational activity.... Subsuming education under the medium of law produces an

"abstract grouping" together of those involved in the educational process and individualised legal subjects in the fact that the norms of school law apply without consideration of the persons concerned, of their needs and interests, cutting off their experiences, splitting up their life relationships. This has to endanger the pedagogical freedom and initiative of the teachers.... The over-regulation of the curriculum lead to such phenomena as depersonalisation, inhibition of innovation, breakdown of responsibility, immobility, and so forth. (Habermas; McCarthy (trans.), 1987, 371)

Then he proposes communicative rationality as the solution for alienation and domination. He explains how communicative rationality functions for solving educational depersonalisation and dysfunction. Communicative rationality will be reached "through decision-making procedures that treat those involved in the pedagogical process as having the capacity to represent their own interests and to regulate their affairs themselves." (Habermas; McCarthy (trans.), 1987, 372) In this way, pedagogical freedom can be kept from dysfunction, and the relationships between pupil's experiences and life can be prevented from being cutting off. He points out,

the point is to protect areas of life that are functionally dependent on social integration through values, norms, and consensus formation, to preserve them from falling prey to the systematic imperatives of economic and administrative

subsystems growing with dynamics of their own, and to defend them from becoming converted over, through the steering medium of the law, to a principle of socialisation, that is, for them, dysfunctional. (Habermas; McCarthy (trans.), 1987, 372-3)

The predicaments of dysfunction, depersonalisation and dehumanisation can be avoided through autonomous decision-making, by which communicative rationality is established, instead of dominated or distorted rationality.

The above four educational phenomena of non-critical thinking in primary school education can be summarised as follows:

- a) teachers are taken as tools of teaching - as servants and robots;
- b) education alienates teaching and learning from both teachers' and pupils' lifeworlds*;
- c) teaching materials are depersonalised; and

* lifeworld (Lebenswelt): According to Husserl, the lifeworld, "for every historical period and civilisation, has its particular features and is precisely the tradition" (Husserl; Derrida (trans.), 1978, 172). In a word, the lifeworld is the cultural world, in which it has "a universal, unconditioned structure" (Husserl; Derrida (trans.), 1978, 119). Therefore, the lifeworld can be viewed as the world of pure experience. Further, Habermas introduces the concept of lifeworld to begin with "as the correlate of processes of reaching understanding" (Habermas, 1984, 70). In this thesis, it is used not only to imply cultural experiences, but also to indicate the subjective-relative world.

d) educational administrations are dysfunctional.

II. The cultural and social framings of non-critical thinking

In the following two sections, Chinese culture and society will be reflected upon by hermeneutic and phenomenological methodologies, for cultural and social contexts are assumed in this thesis to be entangled in educational activity, and the concepts of culture and society are thought of hermeneutically and phenomenologically in this thesis, which will be explained as follows.

The fundamental concepts of culture and society need to be clarified, because both culture and society are comprehensive notions. T. Ready synthesised the definition of the concept of culture through a survey of anthropologists, ecologists and phenomenological perspectives (Ready, in Kromkowski & McLean (ed.), 1990, 279-81). He "prefers to view culture from a phenomenological perspective" (Ready, in Kromkowski & McLean (eds), 1990, 280).

According to the phenomenological perspective, culture can be viewed as the result of a dialectical process which involves three phases (Ready, in

Kromkowski & McLean (eds.), 1990, 280). These three phases identified by Ready are:

1) the exteriorisation of (unstated) human strivings and needs through action and symbolic expression; 2) the objectification of those symbolic forms into a cultural reality; and 3) the selective internalisation of that cultural reality by members of a society according to their position in that society. (Ready, in Kromkowski & McLean (eds.), 1990, 280)

From the above perspectives, culture can be seen as a developed and still developing knowledge and value, in which all knowledge and values are available to members of society, and society and the person are influenced by culture through "cultural learning", viz, socialisation. The creativity of the person, however, seems to be neglected in Ready's viewpoint. In other words, the passive effect of culture and society on the person is noticed by Ready, but the active aspect of the person is omitted from the above functions.

In contrast, for Habermas a central characteristic of the person is "the competence that makes a subject capable of speaking and acting, that puts him in a position to take part in processes of reaching understanding and thereby to assert his own identity" (Habermas; McCarthy (trans.), 1987,

138; see also in ch. iv).

For Habermas, culture is viewed as the stock of knowledge, whereas society bears the legitimate order, and culture and society are formed with the participation of the person in the culture and society (Habermas; McCarthy (trans.), 1987, 138). In other words, culture provides value systems for society and person, while a person forms part of the contents of culture and society.

The relationship among culture, society and person can be outlined in Figure 2.1. In this Figure, the person participates in the formation of the value system and legitimation, while culture is the source of the value system, and society is the source of legitimation. Habermas' clarification confirms the hermeneutical viewpoint that cultural and social contexts are important for education, in terms of personal development in both social life and individual life.

The cultural and social framings are analysed on the basis of the hermeneutic viewpoint in this thesis. Therefore, in this chapter, only cultural and social contexts which are penetrated by instrumental rationality, or dominated by authority are picked out, when educational

activities are reflected upon. The concepts of culture, society and education are acknowledged in terms of hermeneutics, therefore, Habermas' idea about the relationship among culture, society and person is borrowed. The relationship among culture, society and education is viewed as the way of reciprocation as in Figure 2.2.

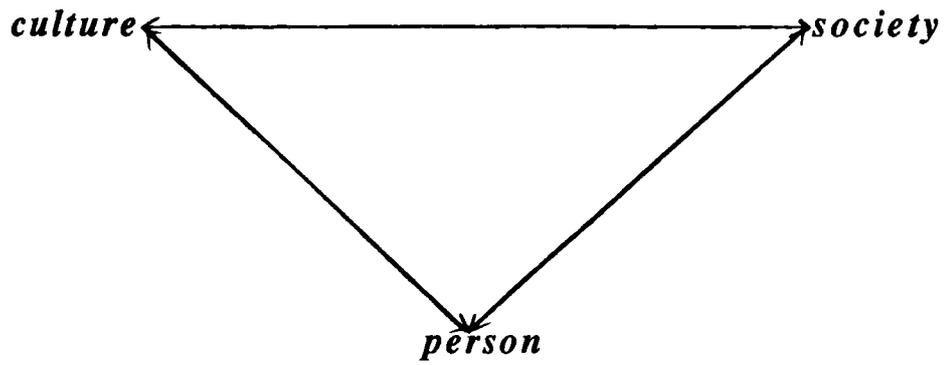


Figure 2.1 The relationship between culture, society and person

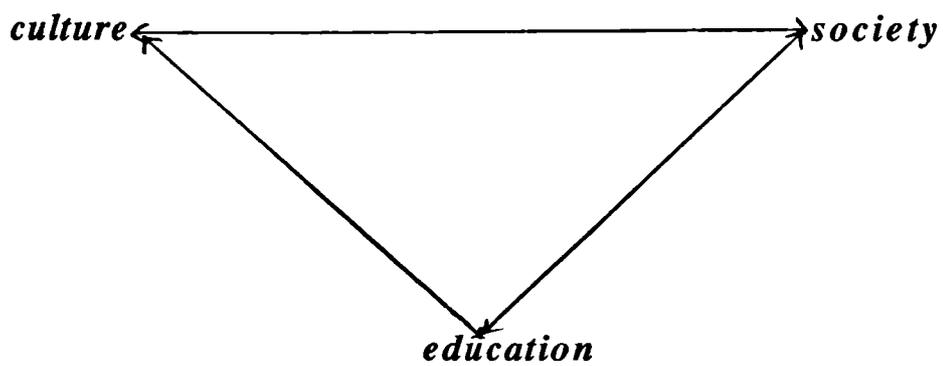


Figure 2.2 The relationship between culture, society and education

A. The mysterious power of Heaven

The concept of human nature could be reflected upon, when Chinese thought is examined, but in this thesis, the metaphysical level is not the focus, so I shall emphasise the reflection upon the transformation of ideology, the weak ability of self-reflection and the neglect of individual autonomy.

A paradoxical relationship among culture, society and education can be seen from the Confucian influence on the Chinese. From Confucianism, the Chinese learned: forbearance instead of resistance; loyalty to the state and leadership; respect for and obedience to aged people; and so on (Confucius, *The Analects*). These virtues do maintain community, society and the state in a stable condition, and therefore are thought to be the foundation of community, society and the state (Yang, in Chinese Education Association (ed.), 1988, 267 - 276). The economic progress in Taiwan is one such a case, and these virtues are seen to be incorporated into textbooks of moral education, for example (Tran, in Chinese Education Association (ed.), 1988, 203).

In contrast, harmony, initially, is a good 'thing' in Chinese culture, yet, it

can come to have a negative function (Tran, in Chang (ed.), 1988, 92-3). Although the concept of harmony has been rooted in Chinese tradition since *Hsia, Shang* and *Chou* (Yang, in Chinese Education Association (ed.), 1988, 268, 273), and it in Chinese culture brings out its negative aspect, it is nevertheless true that harmony - interpreted in a way that is not bound to Chinese culture - is a necessary element of a good life. This will be explored in chapter V.

The negative aspect of tradition rather than its positive function is the focus in this chapter, because examining whether a value system, e.g., harmony, has come to have a negative effect is more significant for a critical thinker than justifying its positive function. The processes of the transfer of the ideology from the positive function into the negative effect are: "by virtue of its efficacy; by virtue of the needs of society; and by virtue of the interest of politics" (Tran, in Chang (ed.), 1988, 93). For the Chinese, the positive function is as a signpost of the value system, however the negative effect is as a dominator of the value system. For instance, harmonious mind and society provide a good life for people. Nevertheless, if harmony is reached through traditional power and authority rather than by reason, or if it cannot be reflected upon continuously, then its nature might be either distorted or misunderstood. In this way, the Chinese might be

alienated from true understanding of themselves when they hold the belief that harmony is the best policy and the highest virtue in society or in life.

Three tasks will be tackled in this section. They are: a) hermeneutically grasping the context of Chinese culture; b) disclosing its core structure, i.e. its inner movement of thought - the cultural power; and c) critically looking for the key source of its value system which influences educational activity in Taiwan.

Ho (harmony) is the essential characteristic in Chinese culture (Confucius, *The Four Books; I-Ching*). *Ho* is defined in *The Doctrine of the Mean* as "when feelings or emotions, i.e. pleasure, anger, sorrow or joy, are stirred but act in their due degree, this state is called a state of harmony... Harmony is the universal path which all people should pursue" (*The Doctrine of the Mean*). In this sense, the nature of *ho* illustrated in Chinese thought is equivalent to virtue in Aristotle's theory; that is, *ho* is morally to express or behave oneself properly in a state of balance between reason and emotion.

Three characteristics of harmony in Chinese culture are:

a) harmony is a natural outcome from Heaven: as *The Doctrine of the*

Mean indicates, "the requirement from Heaven is called human nature, whilst following human nature is called the Way of Heaven" (*The Doctrine of the Mean*);

- b) harmony is originally rooted in human nature; and
- c) harmony can be reached and must be followed, because of its universality, in terms of transcendental experience.

The Great Learning indicates eight steps to reach harmony. These eight steps are developed step by step from grasping the external world to sincere internal emotion and reason. These eight steps are:

things being investigated, knowledge became complete. Their knowledge being complete, their thought were sincere. Their thoughts being sincere, their hearts were then rectified. Their hearts being rectified, their persons were cultivated. Their persons being cultivated, their families were regulated. Their families being regulated, their states were rightly governed. Their states being rightly governed, the whole empire was made tranquil and happy. (*The Great Learning*)

According to the above quotation, the Chinese focus the concept of *ho* (harmony) on the social and moral aspects rather than on the individual aspect. In other words, personal aspect of harmony, for the Chinese, is

merely taken as the tool for reaching social harmony. That is the reason why the goal for moral education in Taiwan is aimed neither at improving one's self-realisation, nor at developing ability for self-reflection, but at maintaining social stability.

The nature of *ho* (harmony) is transferred from transcendental nature, in which individual reason and emotions is rooted, into an internalised and unconscious experienced authority for maintaining the social status quo. Accordingly, individual development for the Chinese is merely self-control, so as to be in accordance with the value system of collectivism.

Ho (harmony) maintains its unique authority for both individual virtue and social morality in Chinese thought (Yang, in Chinese Education Association (ed.), 1988, 270). *Ho* (harmony) is not only developed for a harmonious or stable society (Tran, in Chinese Education Association (ed.), 1988, 112), but also serves as the crucial criterion for moral life. "The moral person must be a person who does whatever in the way of *Chung* and *Yung*, i.e. the Way of Heaven" (*The Doctrine of the Mean*).

Although harmony (*ho*) is the dialectical crystallisation from Heaven and

the Earth via the person (Mencius, *The Works of Mencius*), it goes beyond the function of Nature and serves as the universality for the Nature. Mencius justified the power of harmony in Chinese culture by showing that "neither do opportunities realised by choosing the right time go beyond the advantages afforded by choosing the right place, nor advantages afforded by choosing the right place go beyond the benefits arising from an harmonious relationship among people" (Mencius, *The Works of Mencius*).

Also, he takes an example to argue this. He argues,

a small town had not been attacked by a strong state, because the small town acquired its advantages from its location, though the strong state chose the best opportunity to attack it. On the other hand, a strong state could not occupy the small town, because it lost the support from its people, though it was abundant with foodstuffs. In a word, it was as a result of lack of harmony in the state that the strong and large state did not occupy the small country. (Mencius, *The Works of Mencius*)

From Mencius' arguments, harmony bears the primacy of all things by the authority of an arbitrator in the universe, and it is by harmony that the criterion for a good life is defined. In the belief that harmony is the ultimate good, the Chinese family and society transmit the mottoes about

harmony from generation to generation. The mottoes say that 'a harmonious relationship among members in a family makes everything prosperous,' and 'nothing valuable can beat a harmonious relationship.' From these mottoes, harmony shows its mysterious power in constituting the essence of Chinese culture, including politics, morality and personal life.

However, this value system will hamper human development, once its operation functions negatively rather than positively. The transformation of this value system is equivalent to the transfer of ideology. The process of the transfer of ideology has been analysed in Habermas' *Legitimation Crisis* (Habermas; McCarthy (trans.), 1975).

According to Habermas, the term 'crisis' implies that positive ideology is transferred into negative ideology, which is dominated by a certain interest, therefore it becomes the conflict between different interests (Habermas; McCarthy (trans.), 1975). He analysed four crises in society:

- a) economic crisis: covering political crisis, which gives rise to the conflict between the individual interest and the community interest (Habermas; McCarthy (trans), 1975, 45-6);
- b) rationality crisis: resulting from the conflict between the idea that

rationality is established through hegemony or through enlightenment (Habermas; McCarthy (trans.), 1975, 45-6; 70-3);

c) legitimation crisis: indicating the conflict between the privileged class and other members (Habermas; McCarthy (trans.), 1975, 70-5);

d) motivation crisis: emerging from the lack of materials and the lack of confidence in social, political and economic systems. In a word, this is a crisis of identification (Habermas; McCarthy (trans.), 1975, 45-6; 70-3).

For the Chinese, the mysterious authority in Chinese culture does not display the above crises, although it has transferred its positive function into the negative effect (Tran, in Chang (ed.), 1988, 93). This does not mean that there is no crisis in Chinese culture. On the contrary, the sense of non-crisis is a crisis, which may emerge from culture distortion.

There is a more severe crisis than the above four crises in Chinese society. That is, they might not perceive any crisis in their society. This crisis results from the fact that the Chinese were taught and encouraged by education, in its broadest way, to hold the belief that in the interest of collectivism, leadership must be completely respected without question, because any thing is not dominated by the person but by Heaven. Harmony is viewed as the will and order of Heaven. Therefore, the conflicts

between the individual and the community, and between the privileged class and other members, were severely discouraged. They might hide behind harmony.

In this way, the rationality crisis and the motivation crisis can hardly be recognised in Chinese culture. The Chinese accepted the fact of the lack of materials and distortions of society, because they took all 'disasters' as symbols from Heaven to warn people not to rebel against the Way of Heaven (Confucius, *The Analects*). In this sense, the Chinese hold that everybody must follow this rule without question. *Ho* (harmony) acted as such a universal criterion for self-identity, self-reflection, social legitimation, and economic interest in Chinese thought. It is the hope for Heaven that all crises are covered against being exposed.

As Confucius pointed out, the rule of *ho* (harmony) between the prince and his ministers is that "a prince should employ his ministers according to the rules of propriety; ministers should serve their prince with faithfulness" (Confucius, *The Analects*). A harmonious personal relationship can be maintained by moral rules such as "he who is not in any particular office, has nothing to do with plans for the administration of its duties" (Confucius, *The Analects*).

Such an a priori principle will constrain individual development, while it maintains the social status quo. Confucius teaches his students that the individual has been located so that nobody should destroy this location, and each location has its own duty so that nobody should be involved in others' location, otherwise society and the state will be in a mess (Confucius, *The Four Books*). This principle seems sound: to place everyone in a position and to keep society in order. Similarly, Confucius claims that Heaven determined the order of succession from *Yoau* to *Shun* (Confucius, *The Analects*). However, it is a product of determinism that nobody can be changed, once he has been placed in a position.

Two crucial elements in Chinese culture for reaching or maintaining harmony involved in the above a priori principle are *Li* and *Jen*. Both of them are viewed as effective approaches for harmonious personal relationships, in family, society and the state. *Li* means the rules of propriety, while *Jen* (benevolence) "is the characteristic element of humanity" (*The Doctrine of the Mean*). Confucius argues that *Li* must be the foundation of virtue, because it provides the stable foundation for society and the state by regulating individual behaviours (Confucius, *The Analects*). Also, he says that "respectfulness without *Li* becomes laborious

bustle; carefulness without *Li* becomes timidity; courage without *Li* becomes boldness; straightforwardness without *Li* becomes rudeness" (Confucius, *The Analects*). Further, he points out the function of *Li* by showing that "if a superior loves *Li*, the people would be reverent" (Confucius, *The Analects*).

Mencius goes a step further to claim that *Li* and benevolence (*Jen*) are two constituents of harmony. He argues that "if everyone would love his parents and show due respect to his elders, the whole state would enjoy tranquillity" (Mencius, *The Works of Mencius*).

He takes *Yaou* and *Shun*, two sages in ancient Chinese society, and their prosperous periods of government as an example to show the vital functions of *Li* and *Jen* for the state. He explains that "Yaou and Shun, two emperors in ancient China, governed a prosperous state by the principles of *Li* and *Jen*. Without a benevolent government, even a sage, like Yaou or Shun, could not secure the tranquil order of the state" (Mencius, *The Works of Mencius*). Also, he emphasises the efficacy of *Jen* that "it was by *Jen* (benevolence) that the three dynasties, *Hsia*, *Shang* and *Chou*, gained the empire; and that they lost their empire, by not being *Jen* (benevolent)" (Mencius, *The Works of Mencius*).

Since then both *Li* and *Jen* have been thought by the Chinese to be effective elements for regulating one's behaviour when a harmonious society would be maintained or reached. That these two elements have been constituted the contents of education is a case in point.

It seems to me that the reason why *Li* and *Jen* are praised by the Chinese is that they are effective for a stable society or the state rather than for personal well-being. *Li* and *Jen* are taken as tools for political and social interests rather than individual interest in Chinese thought. In Chinese culture, while *Li* and *Jen* maintain a harmonious relationship between individual and society, there is no room for personal well-being, but merely for collectivism.

The power of Heaven in Chinese thought shows its unchallengeable and irresistible authority in three ways. First, Heaven plays a transcendental role in Chinese culture, especially morality. This transcendental role can be seen from the works of Confucianism. *Chuen-Chion-farn-low*, one of the important books of Chinese history, illustrates that "Heaven is claimed as the emperor of all things" (*Chuen-Chion-farn-low*). Also, Confucius instructs people to follow the rule of Heaven. He reminds people that

"without recognising the ordinances of Heaven, it is impossible to be a superior man (*ChunTzu*)" (Confucius, *The Analects*). In this sense, Heaven plays a transcendental role in Chinese morality. A superior man (*Chun Tzu*) is the very person who is dispatched by Heaven, and he knows the Way of Heaven and follows it.

Tzu-kung, one of Confucius's students, explicitly emphasised the all-embracing power of Heaven. He says that "our master (Confucius) is a person of virtue and nobody can surpass him. His virtue is as high as the Heaven, which cannot be reached" (Confucius, *The Analects*). This reveals the characteristic of the transcendental role of Heaven in Chinese thought. Nobody except the sage, like Confucius, can grasp the Way of Heaven, therefore, people should defer to the way of the sage in order not to be against the Way of Heaven. Confucius claims that "there are three things of which the superior man stands in awe. He stands in awe of the ordinances of Heaven. He stands in awe of the great men. He stands in awe of the words of sages" (Confucius, *The Analects*).

Second, Heaven is viewed as the justice of all things in Chinese society. Heaven is viewed as an arbitrator in personal life and social life. Confucius claims that Heaven is the only one who knows what people have done. He

exclaims,

Alas! no one knows me well ... All my life has been arranged by Heaven.
So I do not murmur against Heaven. I do not grumble against men. I try to
grasp the Way of Heaven via learning from my experiences. The only one
who knows very well about who I am and what I have done is Heaven.
(Confucius, *The Analects*)

Following Confucius, the Chinese put their hope on Heaven when they are unjustly treated and are unable to defend themselves. A Chinese motto offers a consolation to people that "Heaven will know everything very well, reveal the truth and return you justice, even though nobody knows what happened." A just and judicious judgment in ancient Chinese society, for example, was called the Heaven *Pau*. (*Pau* is the surname of this justice judgment in *the Legend of Twelve Heroes*.)

The third way to show the power of Heaven in Chinese thought lies in taking Heaven as the ultimate concern of morality in order to maintain society in order. *Tsze-sze* tries to link the unsurpassed Heaven with morality by the connection between Heaven and men. He points out that "be sincere" is the crucial principle by which people may reach the Way of Heaven. Further, he explains why sincerity is the main road towards the

Way of Heaven. He says,

only the most sincere man can fully fulfil his potential, which is in accordance with the nature of Heaven. Then, the man will understand the nature of human beings. He can contribute to the development of all things via his understanding about human nature. Then the man will stand with Heaven and the Earth, and form a triad. (*The Doctrine of the Mean*)

For *Tsze-sze*, "to sincerely follow the Way of Heaven is the right way for men" (*The Doctrine of the Mean*). A moral man should figure out the Way of Heaven and obey it. In this sense, Heaven governs not only the natural lifeworld, e.g. scientific knowledge or truth, but also the social lifeworld, e.g., morality, and the internal lifeworld of self, i.e. self-realisation, self-reflection and self-actualisation.

For the Chinese, morality is the Way of Heaven. To act morally is the road towards the Way of Heaven. This is the ideal type of Chinese morality, and it is too perfect to be reached. If this is the case, then Chinese morality is too transcendental to be put into practice. However, for the Chinese, Heaven will enlighten people, i.e. wise people, and show them His Way. In order to be accordance with the Way of Heaven, education in Chinese traditional society was assumed to help people to

recognise the Way of Heaven, at least, to recognise the way of the sage (Confucius, *the Great Learning*).

Confucius is taken as this sage in Chinese culture. This is the reason why the dogma of Confucianism, e.g., loyalty, filial piety etc. become the main contents of moral education in Taiwan (Tran, in Chang (ed.), 1988, 73-4; The National Institute of Compilation and Translation, 1990a; Yang, in The Chinese Education Association (ed.), 1988, 268).

Six learning steps, in terms of education, to reach the Way of Heaven Confucius pointed out are:

At fifteen, I had my mind bent on learning. At thirty, I stood firm. At forty, I had no doubts. At fifty, I know the decrees of Heaven. At sixty, my ears were obedient organs for the reception of truth. At seventy, I could follow what my heart desired, without transgressing what was right (because my heart is nearly identical to the way of Heaven). (Confucius, *The Analects*)

From the above quotation, Confucius takes himself as a model to show that a moral person must be a person whose desire is identical to the Way of Heaven. This idea of morality seems to have a developmental basis, in

terms of age. Only at seventy is the final and ideal stage at morality fully achieved. At that age, a person's behaviour is identical to the Way of Heaven, so he can act and express himself freely but properly.

According to Confucian theory of moral development, a moral person is equivalent to an autonomous person. For the Chinese, the moral person, however, is just the messenger of Heaven rather than himself. However, a moral person on this conception is not truly to be counted autonomous, if an autonomous person is assumed to be able to reflect upon his own value system or ideology.

Here, in brief, I shall claim that an autonomous person must be free but rational enough to be himself, and therefore, he reflects upon not only external rationality but also inner rationality. Inner rationality indicates the individual value system, while external rationality is based in others' value systems.

In Confucian theory, an autonomous person is viewed as a moral person, who can defer to the Way of Heaven (external rationality) to maintain a harmonious society, but can hardly be himself (inner rationality). Whatever he reflects upon is within the framework of the authority of

Heaven, i.e. within the idea of harmony.

Nevertheless, whether harmony is compatible with self-reflection, and whether the nature of harmony is misunderstood by the Chinese so that it becomes the hindrance of autonomy need to be examined. V. D. Tran has discussed these questions to show the changes in the meaning and nature of harmony, but he did not discuss the relationship between autonomy and harmony (Tran, in Tran & Shen (ed.), 1987, 101-130). Thus, this task will be dealt with in this thesis.

Harmony originally emerged from the human demand for an orderly society in Chinese culture. However, it becomes the dominator over personal life and social life by its transcendental authority, by its arbitrate power and by its moral legitimation. In shedding light on the key source of the inner logic of Chinese thought, viz., the concept of Heaven and the authority of harmony, the arbitrate power and moral legitimation of culture manifested in Chinese society can be found. The autonomy of the Chinese, constrained under the authority of Heaven, is revealed from the fact that the Chinese are confined to this unchallengeable authority, and that the concept of Heaven is transferred from the role of helper of human development into a constraint in Chinese culture.

In order to emancipate men from its power, the mysterious authority of Heaven in Chinese culture needs to be examined by looking critically at the relationship between this power and human life. The process of the transfer of ideology confirms that critical thinking is needed for human development in two ways - negatively for showing the constraint of ideology; positively for searching for rationality in the value system. Otherwise, the Chinese will be dominated by the cultural authority due to the lack of critical thinking, as Habermas claimed,

the more cultural traditions predecide which validity claims, when, where, for what, from whom, and to whom must be accepted and the less the participants themselves have the possibility of making explicit and examining the potential grounds on which their yes/no positions are based.

(Habermas; McCarthy (trans.), 1984, 70-1)

According to Habermas, if a person is lacking in self-reflection, the role of culture can be changed from the helper into being a constraint on human development (Habermas; 1984, McCarthy (trans.), 70-1). Similar to the relationship between autonomy and harmony, the argument here is that a cultural authority with non-critical thinking, e.g., Confucianism, grounded in a mysterious concept of Heaven and not allowed to be questioned but

dominating human activities, including thought and actions, will hamper human development, in terms of autonomy.

It can be thought in previous analyses that lack of questioning of the foundation of assumptions is what crucially leads the value system from a positive to a negative effect. In Chinese culture, the power of Heaven dominates not only human thought and actions, but also the whole universe, including Nature, society and the state (*The Great Learning; The Doctrine of the Mean*). Under such a power, nobody can really be oneself.

It is hard for the Chinese to be autonomous. The Chinese are always encouraged to defer to the Way of Heaven rather than to inquire or rebel against it, as Mencius claims that "if an emperor is pleased with the Way of Heaven, his state would be maintained; while if he is in awe to Heaven, his country could be sustained" (Mencius, *The Works of Mencius*). In addition, *the Book of Poetry*, another work of Confucianism, shows that the way for men towards happiness is to follow the Way of Heaven, which is illustrated also by the statement that "men had better be in harmony with the ordinances of Heaven so that they can maintain themselves in much happiness" (Mencius, *The Works of Mencius*). Therefore, those who try to rebel against this power will themselves suffer from Heaven's

punishment. A warning for this was given in *Tae Kea* , one of the works of Confucianism:

if calamities are sent down from Heaven, it is still possible for men to escape from them; (because these calamities are just a test for people from Heaven) however, if the calamities are caused by men themselves, it would not be possible for men to live any longer. (because men rebel against the way of Heaven.) (Mencius, *The Works of Mencius*)

In other words, any action rebelling against the authority of Heaven will be threatened with the dreadful punishment. Both Confucius and Mencius also confirm this punishment: that men cannot live again if they rebel against the way of Heaven, while the state will be destroyed, if the emperor rebels against the way of Heaven (Confucius, *The Analects*; Mencius, *The Work of Mencius*); and that the person who does not understand the Way of Heaven and does not defer to it will be viewed as an immoral person (Confucius, *The Analects*). Such social pressures also depress human capacities to reflect upon this mysterious authority. Therefore, it is hard for the Chinese to deform or destroy the authority of Heaven, which is rooted in Chinese thought.

Moreover, the omnipotence of the authority of Heaven prevents the

Chinese from developing enlightened scientific knowledge and themselves. As in Thome Fang's description about the role of harmony in the universe, harmony is an unchallenged, transcendental principle, in which all things are rooted, including the natural and the social worlds. As Fang describes it

for several thousands of years, we Chinese have been thinking of these vital problems in terms of comprehensive harmony which permeates anything and everything. It sounds like an eternal symphony swaying and swinging all the sky, all the earth, all the air, all the water, merging all forms of existence in one supreme bliss of unity. The Chinese speculation has been centring on the three chief problems of Nature, Man and Men's cultural achievement. (Fang, 1980, 11)

From the above descriptions about harmony, no enlightened scientific thought could exist in Chinese thought. Enlightened scientific thought leads men to be the masters of the natural world and to establish a universality for the natural world, while for the Chinese, there is no way to transcend the power of Heaven, if they have not been emancipated from the traditional authority. Even though the nature of harmony is revealed in various forms, all forms share transcendently their principles with the Way of Heaven. As *The Doctrine of the Mean* indicates, all things attain

their full growth and development within the Way of Heaven.

The Chinese originally understand the universe through the concepts of ritual terms rather than through empirical terms. The concept of ritual is constituted by a set of abstract ideas which are expressed through imagination with reason. The concept of ritual can be understood via human experiences but cannot be empirically justified, and its justification is concerned with the amount of human knowledge about its contents. Thus, it should be reasonable but not necessarily universal.

If rules established by empirical terms are called established principles, then those established by ritual terms, e.g., the description of harmony and Heaven, are called natural principles here. In this sense, generally speaking, Chinese culture can be expressed by the natural principle while the Western enlightened science is created via established principles. Traditional value system which is acceptable in Chinese society should be established by natural principles rather than established principles. For example, the leadership in a state, a community, or in a family is granted the sub-power from Heaven in traditional Chinese society, rather than from democratic legitimations. The leadership's orders, being fundamentally viewed as the second order of Heaven, are not to be rebelled against. A

person, as a good citizen or a good member of a community or a family, is required to obey the rule established by their leadership in order to maintain the harmonious state.

Chinese children should obey their teachers and accept knowledge from textbooks without question. Analogously, as being analysed in the first section, both principals and teachers in the school are clothed in the sub-authority of Heaven, and function as authorities in the school. As a result, the Chinese lose themselves by confining themselves to authority. It is because the deep structure of thought is grounded in natural principles rather than established principles that the pace towards autonomy is slowed down.

If this is the case, the Chinese should enlighten themselves by reflecting upon these authorities, in order to be authentically themselves; and they should emancipate themselves from this traditional yoke to reconstruct a rational life.

B. The legitimate authority

The phenomenon of domination by natural principles, shown in Chinese

culture, is also shown in Chinese society. In traditional society, social codes and moral perspectives are based on the mysterious authority of Heaven in Chinese thought. This authority did contribute stability and security to a chaotic society - stability, to tranquillise the enlightened consciousness; security, to secure acquired authority against undermining. This strengthened the legitimacy of "the Way of Heaven".

Like the transfer of ideology, the positive legitimation might work its negative effect on limiting individual autonomy, once the legitimation is taken as an unchallenged universality. In this sense, individual autonomy will have to be exercised within the range of the legitimate. As discussed, the mysterious authority of Heaven and legitimation have their positive functions. It is in the lack of critical thinking that the Chinese are confined to its negative function. This will be discussed further.

The terms *Chung* and *Yung* in Chinese mean the Way of Mean. They imply commonality, equality and sincerity (Confucius, *The Doctrine of the Mean*). Commonality, equality and sincerity constitute a democratic society. A sound democratic society is possible only if these three constituents are realised and carried on. (Here, the sound democratic society means a society in which the relationship between individual and

community is harmonious both in appearance and in its hidden value system.) In this sense, either harmony without being sincere to oneself or harmony under political or economic power, is not such democracy.

Confucianism shows its deficiencies as sound democracy in two ways. First, not diversity but commonality is emphasised. Confucius says, "what you do not wish others to do to you, do not do to others" (Confucius, *The Analects*). Similarly, *The Doctrine of the Mean* indicates that "...to serve my father as I would expect my son to serve me, ... to treat friends as I would expect them to treat me..." (*The Doctrine of the Mean*).

Second, equality and sincerity are limited to either the ruler or collectivism. The ideology of class is grasped tightly in Chinese society in order to maintain society in order. *The Works of Mencius* indicates that "the highest personal relationships are the relationship between father and son in a family, and the relationship between the ruler and the ministers in a state...Children cannot delay to respond to father's summons, whereas the ministers cannot delay to respond to the ruler's summons" (Mencius, *The Works of Mencius*). An unchallenged power is manifested from the above relationship which is taken as the highest morality in Chinese society. The meaning of 'highest' implies the strongest authority. Sincerity is the

crucial element in reaching harmony (*The Great Learning; The Doctrine of the Mean*). However, under a certain coercion which comes from culture or society, sincerely to be oneself is difficult, if it is not impossible. This legitimation is not only furnished with the authority of Heaven, but also involved in political and economic dominations. The legitimate structure, like the cultural framing, embodies its irresistible power in Chinese society.

Therefore, two tasks, focused on the authority of legitimation in society, will be undertaken in this section. First, why and how cultural authority clings to society; and second, how far the legitimation influences Taiwanese society. The first task is a historical understanding of the relationship between culture and society, while the second task is the reflection upon the current situation of Taiwanese society. (Yet, both these two put emphasis on philosophical reflection rather than historical or sociological researches, therefore, the social context will not be described in detail.)

Confucianism is appreciated by the leadership in Chinese society because it offers a condition of moral "quiet", which men are expected to obey quietly rather than reflect upon dynamically. One of outstanding examples for showing that the leadership benefits from adopting the idea of

Confucianism is Confucius' recommendation to the leadership of the state. He advises the leadership that "you may have people follow an instruction, but they should not be informed to understand its reason" (Confucius, *The Analects*). Apart from the political aspect, legitimation is located in the community and family by the form of collectivism and by the superior virtue of senior persons (Confucius, *The Analects*).

In Taiwan, since Confucianism is taken as a unique orthodoxy, people are merely required to be loyal to the state or their leadership; to devote themselves to their parents; to make sacrifices to the collectivity; to obey the law of society; and then legitimation, which regulates human behaviours legally, becomes the criterion for a good citizen in Taiwanese society.

Cultural orthodoxy functions as social legitimation, becoming the criterion of qualification as a good citizen for the Taiwanese. There is an Institute which is established by the Government to take charge of propagating Confucianism, and the doctrines of Confucianism constitute parts of required courses in school education, even in university. In other words, for the Chinese, cultural authority locates morally the criterion for harmonious society, while human ability of reflection is stifled by

legitimation (Chang (ed.), 1988, 154).

In Chinese society, legitimation is established for maintaining the social status quo and for protecting the Governmental political interest. Thus, either evolutionary or revolutionary reformation of society can hardly earn any support from the Government. For example, an opposition political party has difficulty in being recognised and organised (Chung, in TAHR, 1989, 248). The incident of Tianamen Square in Mainland China is a similar case.

Being authentically oneself would be hard to reach, if self-reflection is limited to an external framework. Legitimation guarantees the interests of its establishers, e.g., the Government, by rationalising the emancipatory power (TAHR, 1989). Therefore, legitimation which is established by power holders must not be in conflict with their own interests. In this way, human reason is limited by legitimation to the extent that it is directed by an external framework of reference rather than through internal reflection.

The influences of legitimatisation on the Chinese can be shown in two ways. First, cultural authority normalises a person into adjusting harmoniously to the social codes instead of reflecting upon them. Under

the yoke of the traditional value system, the person is legitimately and morally asked to think and to act according to the same model, which is viewed as the orthodox legitimation. Consequently, individual ability of reflection will be gradually paralysed. This is a negative function of socialisation.

Second, as analysed in chapter I, educational aims are distorted by instrumental reason. Education loses capacity for reflection, and becomes a tool for the reproduction of human-labour, when facing economic and political manipulation. Meanwhile, political propaganda is imposed on people via teaching and learning. With teaching and learning which lack critical thinking, traditional authority is taken for granted as orthodoxy from generation to generation. It is by this route that legitimation accompanied by cultural authority is, therefore, taken for granted as the criterion for the rationality of the lifeworld. As Habermas criticises, "the legitimation load of ideologically effective worldviews was immunised against objections already within the cognitive reach of everyday communication" (Habermas, McCarthy (trans.), 1987, 189).

Within such situations, self-realisation, self-reflection and self-actualisation are exercised dysfunctionally, because self-reflection is tied to collectivism,

orthodox social codes, and instrumental interest.

The dysfunctions of self-realisation, self-reflection and self-actualisation can be shown in Taiwanese society by the fact that people become interested in gambling on the stock market, on the lottery and on the competition for political power (Lee, in Central Daily News, Jan. 30, 1991). Habermas confirms the critique of Horkheimer, Marcuse and Adorno, and explains the reason for the cultural and social dysfunctions. He says,

the critiques of ideology carried out by Horkheimer, Marcuse, and Adorno confirmed them in the belief that culture was losing its autonomy in postliberal societies and was being incorporated into the machinery of the economic-administrative system. (Habermas; McCarthy (trans.), 1987, 382)

According to the above analyses about the orthodox social legitimation in Taiwan, the crises of dehumanisation and depersonalisation, in Habermas' terms, are revealed in Taiwanese society. "Dehumanisation means any splitting off from the lifeworld of formally organised domains of action which is made possible by steering media"(Habermas; McCarthy (trans.), 1987,308). Depersonalisation means "the separation of organised action systems from personality structures"(Habermas; McCarthy (trans.),1987, 308).

Under the effects of dehumanisation and depersonalisation, two characteristics may result: the individual loses his ability of reflection; and personal autonomy is limited or neglected. According to Marx' and Habermas' analyses of European feudalism, dehumanisation and depersonalisation under the capitalist pattern of modernisation are "marked by a deformation, a reification of the symbolic structures of the lifeworld under the imperatives of subsystems differentiated out via money and power and rendered self-sufficient" (Habermas, McCarthy (trans.), 1987, 283). Similar to European society, dehumanisation and depersonalisation, shown in Taiwanese society, not only result from the individual alienation from his lifeworld, but also result from the yoke of the traditional power, which is deeply rooted in Chinese thought.

In general, dehumanisation and depersonalisation are shown in Taiwanese society in two ways: a) in political and economic aspects; and b) in cultural, moral and educational aspects. In Taiwan, there was no opposition political party, which could balance the Government, until five years ago; most major industries, e.g., alcohol, cigarettes, electricity, water, postal and cable services, traffic, petrol, the steel industry and so on, are monopolised under the control of the Government. Such control of the economy,

surprisingly, has brought about great economic development in Taiwan. Nevertheless, the control of the economy implies the control of necessity, while the control of necessity indicates the control of self-survival. Consequently, freedom of thought will be controlled through the control of self-survival, because self-survival is a physical but fundamental need for human beings.

The control of freedom of thought is aimed at consolidating the position of the ruling class, because their interests are legitimately guaranteed not to be reflected upon by limiting the extent of people's thought to a specific framework. For example, according to *the Three Principles of the People*, the Government should possess the power of governing, while people exercise political rights (Sun, 1923). In principle, this distinction is clear enough to locate governmental power and people's rights. However, in practice, the relationship between these two forces is complicated and vague.

Take, for example, the affairs of the National Defence. Some of them are matters of the highest secrecy for a country in order to maintain its security and stability, from the viewpoint of the Government. However, if people are not informed or are not allowed to understand these affairs, the

process and adequacy of the governmental policy-making on it are called into question. Similar to this, some legitimisation in Taiwan appears democratic, yet such a democracy is exercised within a certain political interest.

Apart from the economic and political influences, such an authority also influences Taiwanese society in moral and educational aspects (Tran, in Chang (ed.), 1988, 76-8). According to the analyses in the first section of this chapter, the government is interested in the reform and renaissance of Confucianism, and traditional virtues such as filial piety, obedience, loyalty, trust, and peace constitute the moral contents in society and schools. These are parts of the reasons why educational reform cannot reach the aim of creating an autonomous person.

The influence of dehumanisation and depersonalisation can be shown from the fact that Taiwanese society has been entangled in the conflict between social destruction and individual freedom. The Taiwanese pursue a free economic marketing system, while they appeal for individual independence in a society and in a family. It can be shown from the documents of Candidates for the people's representatives that the Taiwanese expect to live in a rich and free society (Central Daily News, 1991, Dec. 12-28).

This demand shows also that the Taiwanese demand their independence as individual from the Government, when they are impressed by Western democracy and freedom. Nevertheless, they are unable to throw off the traditional yoke, because they finally choose the way of the mean - to make progress on the basis of stability rather than radical changes (Central Daily News, 1991, Dec., 25). Making progress in a stable society is not questionable; what is questionable is sticking to a universal and legitimate authority both in moral life and school life without thinking critically.

Teaching for critical thinking will be advocated in this thesis. At this very moment, self-realisation and self-reflection must cope with this change and face this crisis so that the relationship between society and the individual, and between freedom and legitimation can be re-harmonised. Otherwise, either because of the shortage of knowledge and the capacity for self-reflection, or because of the lack of openness in the value system, it is hard for the Taiwanese to dismiss such a negative ideology which is deeply rooted in an unchallengeable authority.

The Taiwanese have been fettered by both cultural authority and social legitimation so far. Legitimation is still based in cultural authority. Even

though some scholars, e.g., V. Shen (1987), M. H. Lee (in Tran & Shen (eds.),1988), K. D. Lee (1991), have noticed the crisis of Chinese culture and society, they have merely pointed out that there could be something wrong with Confucianism, or have suggested that Confucianism must be reexamined, but they have not thought out an effective strategy to emancipate the Chinese thoroughly from the confines of the concept of Heaven.

Three reasons might explain their positions. First, they themselves are still constrained by the authority of Heaven; second, they are not courageous enough to rebel against tradition, even though they have discovered the negative effect of the Chinese tradition. Finally, they are not capable of dealing with it, partly because this issue is too hard to be resolved; partly because circumstances, e.g., the political situation of conservatism or their own interests, prevent them from solving this problem efficiently and critically.

From the above discussion, the Chinese can neither unfetter themselves from the ultimate power, nor struggle for the autonomy of both the individual and society. Therefore, to reconstruct a rational value system will be a tough challenge for the Taiwanese, unless their self-consciousness

is promptly enlightened and their ability for self-reflection is manifestly developed. These issues show the tasks of primary school education in Taiwan.

In other words, education acquires its significance from following two tasks: a) enlightening people to be brave and rational enough to be themselves; and b) furnishing people with ability for reflection. Basically, not only knowledge and ability for self-reflection need to be cultivated, but also an open-minded system (community, society and the state) needs to be established as a basis for the reconstruction of a rational value system in society. In this sense, education raises human hope for a good life. Reflecting continuously upon educational theory and practice will be indispensable if education is to escape from the domination of negative ideology and to undertake its tasks.

Conclusion

The cultural, social and educational framings of non-critical thinking in Taiwan can be divided into three dimensions: power, alienation and one-sided rationality. The characteristics of non-critical thinking in culture, society and education can be shown in Table 2.1.

Heaven lodges 'His' power in culture, while *ho* (harmony) imparts its power to morality in society. Political and economic interests are hidden in cultural authority and moral codes in Taiwanese society. Knowledge constitutes its power in school education, whereas teaching and learning without thinking distorts the function of the enlightenment of reason. Thereby, the development of culture, society and person is alienated from lifeworld. Dysfunction, depersonalisation and dehumanisation therefore occur to the Taiwanese.

Education, in terms of teaching for critical thinking, should show its achievements in at least three ways: a) one-sided rationality will be questioned; b) human beings can emancipate themselves from the dominations of Heaven, moral codes and knowledge; and c) the alienations of dysfunction, dehumanisation and depersonalisation can be destroyed, if critical thinking can help people to emancipate themselves from the above alienations, including culture, society and person. Critical thinkers at least should be capable of inquiry, reflection and emancipation, so as to reconstruct autonomously a rationality for their lives and society. This will be investigated in the following chapters.

Table 2.1 The characteristics of non-critical thinking

Framing representation	culture	society	education
power	Heaven moral codes	<i>ho</i> (harmony)	knowledge
alienation	dysfunction, dehumanisation, depersonalisation	dysfunction, dehumanisation, depersonalisation	dysfunction, dehumanisation, depersonalisation
one-sided rationality	universal value system	political and/or economic power	teaching & learning without thinking

Chapter III

**THE NATURE OF CRITICAL THINKING (I) :
FOUR MODES**

I. The supernatural mode

II. The empirical mode

III. The subject-dialectical mode

IV. The communicative mode

Conclusion

Chapter III

THE NATURE OF CRITICAL THINKING (I) : FOUR MODES

He who has imagination without reason has wings but no feet.

Primary school education in Taiwan has been reflected upon, and the educational dysfunction, dehumanisation and depersonalisation are its crises. These crises result from teaching and learning without thinking, because it weakens the abilities of self-knowledge, self-reflection and self-actualisation. These abilities must be exercised by an autonomous person. Therefore, I assume that the teaching of critical thinking will be able to reduce such crises, if critical thinking includes the abilities of

inquiry, reflection, emancipation and reconstruction. In order to justify this assumption, the nature of critical thinking will be clarified.

The nature of critical thinking will be clarified in two ways: investigating its general characteristics, and examining its *noesis**. The first task will be undertaken in this chapter, whereas the second task will be dealt with in the next chapter. The historical development of critical thinking will be surveyed so that its various forms and its common characteristics can be displayed.

Critical thinking has always been a vital motor for understanding the world and our place within it, although it has taken various forms. There is much evidence to suggest that "throughout history people have asked questions about the kind of world that we live in, such as whether it makes sense, or whether we can feel at home in it" (Sankey, Sullivan and Watson, 1988, 7).

Searching for a better understanding of the world, in the belief that this will enhance the quality of life, has been the hope of human beings. It is through critical thinking that people question the world, grasp their circumstances, and solve problems.

* *noesis*: see below p. 150.

In recent years many educators have become convinced of the importance of critical thinking as an educational reform (Lipman, 1990, 1). Nevertheless, there is no consensus on the definition of critical thinking (Martin, 1990, 4). Some consider critical thinking to be a skill for problem-solving, e.g. cognitive psychologists (Piaget) and Dewey, while others take critical thinking to include all forms of rational thinking, e.g., Robert Ennis (Ennis, 1962; Ennis, in Baron & Sternberg (ed.), 1990), Harvey Siegel(1988) etc.

In order to grasp the very nature of critical thinking and avoid sinking into confusions of definition, it will be helpful to take a look at the various forms of critical thinking. Purpose can be taken as the key criterion for distinguishing among various modes of critical thinking, due to its role in human activity.

In this thesis, four modes of critical thinking are picked out from history as models to clarify the function of critical thinking in human progress, and their common characteristics. They are: the supernatural mode, the empirical mode, the subject-dialectical mode, and the communicative mode. With the increase of human knowledge and the changes of circumstances, critical thinking has undergone changes in form from the supernatural

mode to the empirical mode, from the empirical mode to the subject-dialectical mode, then to the communicative mode. It is still developing today. These modes possess different forms but have the same underlying nature: a) they are a motor in the progress of human development, including personal and social aspects; and b) there are common characteristics among the various modes of critical thinking. The common nature of critical thinking will be justified, when its four modes are surveyed.

I. The supernatural mode

The supernatural mode of critical thinking reveals an advance in human knowledge in a society when men do not know very well about themselves or circumstances. Therefore, they tried to make the universe clear to people by explaining the mystery of the universe, e.g., working out the order and movement of the spheres; and clarifying the enigma of human genesis, e.g., how God creates the world (i.e. theistic religion), and what the Way of Heaven is (i.e. Confucianism).

Human purpose, at that moment, rested on clarifying the myth of cosmic activity. In Chinese history,

the Confucians are eager to seek after the ordinance of God in order to fulfil life in accordance with the fundamental principle of harmony. The Taoists are eager to go by the primordial root of Tao in order to embrace all beings in its sympathetic unity; *Mo-tzu* and his followers are desirous to become identified with the will of Heaven in order to practise universal love for the complete satisfaction of life: they do all of these things for the reason that the ordinance of God, the primordial root of Tao, and the will of Heaven are the very headspring of universal life. (Fang, 1980, 97)

From the above quotation, the relationships between men and the supernatural world, and men and the Natural world are formulated on the basis of religious worship.

Heaven shows 'His' authority, for example, in the theory of five elements and *I-Ching* in Chinese thought. According to the theory of five elements, logical, mathematical and intuitive methods were used to link the Way of Heaven with human events. Chinese people explained the cosmological order, the genesis of the universe, and the phenomena of the world by virtue of five elements: *Wood, Fire, Earth, Metal, and Water*. *Kuan Tzu* (about 135 B.C), one of the books of Confucianism, confirmed that

Heaven has five elements... Wood comes first in the cycle of the five elements and Water comes last... This is the order which Heaven has made. Wood produces Fire, Fire produces Earth, (i.e. as ashes), Earth produces Metal (i.e. as ores), Metal produces Water (either because molten metal was considered aqueous or more probably, because of the ritual practice of collecting dew on metal mirrors left out at night), and Water produces Wood (for woody plants require water)... (quoted in Ronam, 1978, 148)

Also, the relationship of men and God (Heaven), and man and man were regulated by the five elements. The leader for a state was viewed as the messenger of Heaven. For the Chinese, Heaven showed the right person by auspicious signs, viz., five elements. For example,

the dynasty of Shun ruled by the virtue of Earth, the Hsi dynasty ruled by the virtue of Wood, the Shang dynasty rules by the virtue of Metal, and the Chou dynasty ruled by the virtue of Fire. When a new dynasty is going to arise, Heaven exhibits auspicious signs to the people. During the rise of Huang Ti large earth worms and large ants appear... It indicates that the element Earth is in the ascendant, as our colour must be yellow, and our affairs must be placed under the sign of Earth... (Ronam quoted these from the Chinese naturalist, Tsou Yen -- about 350 and 270 B.C; Ronam, 1978, 144)

Apart from the theory of five elements, the authority of Heaven showed in *I-Ching* (about 300 B.C.), in which human events were explained in terms of ritual. Likewise the theory of five elements, *I-Ching* were derived from the form of the natural world. As Meskill indicated,

Yang meant the sunny side of a hill, while *Yin* meant shadow. More generally, the pair of terms came to stand for a ceaseless alternation of opposites throughout all nature (including human nature): day and night, sun and moon, summer and winter, male and female, (strong and weak)...

(Meskill, 1973, 33)

The authority of Heaven which shows in *I-Ching* is a gigantic whole. According to *I-Ching*, each event constitutes part of *one gigantic whole*, which gigantic whole produces *two forces* : *Yin* and *Yang*. These two forces are divided into *four levels* and, then into *eight kua* ... " (*I-Ching*). *Yin* and *Yang* are separate, but each contains half of its opposite in a recessive state, as is seen when the second division occurs (Ronam, 1978, 162). That is, all things in the world are constituted by the two forces, which carry the order of Heaven, so men can grasp the Way of Heaven by decoding the meaning in eight *kua*.

Heaven is taken as the universality for all things in Chinese society, as in

western society, in which "God is thought to be among the causes of all things and to be a first principle" (Oates,1963, 222). In addition to the above quotation, taking the Shang Dynasty as an example, people asked questions regarding the weather, the battles or the outcome of hunting excursions, and were answered by the crackle of the bones, which was taken as the unique medium between man and the Gods (Meskill, 1973, 7). Therefore, any event, no matter whether in the past or in the future, would be explained through the crackle of bones. It implies that an unexperienced *supernatural world* dominates the universe, and *only wise men* were thought to be able to seek rules from the crackle and decode the meaning of them.

In Chinese thought, "only the wisest can think over events thoroughly...He has profound insight to make a judgment" (*The Doctrine of the Mean*). If such a wise person can be called a critical thinker, then critical thinkers explain to other people what happened and what could happen, while other people just believed in what they explained. In this case, critical thinkers must have the abilities of understanding and reflection, to question the meaning and purpose of the world, and then to have the ability of reconstruction to infer the existence of the unexperienced entity by using creatively their *imagination*s, so that an acceptable principle can be

established. During this course, the activities of inquiry, reflection, emancipation (emancipating themselves from the perplexity of mystery) and reconstruction have been shown in the reconstruction of an accepted principle.

The more men know themselves and circumstances, the more men can manage their lives. The supernatural mode of critical thinking functioned effectively in solving problems of man and the world, and man and God, so that men could profoundly grasp the world, and then improve their own lives. In other words, men through critical thinking developed their knowledge of the human world. Their well-being can be promoted, through deferring to the acceptable principle they worked out.

The principle can be accepted, because it is reasonable. According to M. Black, "in order for an action to be reasonable it must be well-considerated, intelligent, sensible, far-sighted, etc. and may be presumed to be prudent, wise etc. (Black, in Dearden (eds.), 1972, 198) Those are rough but fundamental conditions for a reasonable action. Similarly, a principle which will be accepted must be qualified at least with these features. In fact, these qualifications are included in the characteristics of critical thinking. That is, a person who must be qualified

as a reasonable person, could be a critical thinker, because inquiry, reflection, emancipation and reconstruction must be exercised by a reasonable person. Also, autonomy must be grounded in reasonableness.

However, such an acceptable principle lodges its authority in efficiency and a kind of certainty in human life. As Husserl claims, "the prescientific world is a cultural world already informed by predication, values, empirical techniques, and the practice of measurement and inductiveness which themselves have their own style of certainty" (Husserl; Derrida (trans.), 1978, 120). It is clear that the supernatural mode of critical thinking, in a way, bears the miniature of scientific methods. Hence, once efficiency is added to certainty, the authority of universality would be confirmed in a society. Such an authority can be seen in Confucianism, which has been analysed in chapters one and two. Confucius instructed people not to rebel against the Natural law by stressing the power of Heaven. He argued that "if Heaven intends to have the culture destroyed, nobody could save it... On the contrary, if the Heaven dispatches me to keep it (Chinese culture), then nobody could keep me from it (even by killing me)" (Confucius, *The Analects*). Also, he suggested that understanding the Way of Heaven is crucial for men to grasp human affairs. He says, "people do not know how to manage human affairs so

that they should not know about the affairs of the gods and spirits" (Confucius, *The Analects*).

For the Chinese, the authority of the *supernatural world* cannot be fought against. All men can do in conditions of which knowledge is short, is to grasp or formulate supernatural orders and follow them. Therefore, critical thinkers within the supernatural mode, like others who lack critical thinking, believe in the authority of Heaven. Nevertheless, critical thinkers within the supernatural mode did not merely believe in God's or Heaven's authority, on the contrary, they linked God's law with human activity by virtue of their experiences from *seeing* and *thinking* of the natural world. They built up an acceptable rule, using logical, mathematical and intuitive method for combining observation with imagination.

Therefore, critical thinkers can be distinguished from non-critical thinkers in two ways. In epistemological terms, critical thinkers pursued the truth of the world, instead of being situated in the perplexity of mystery; while in methodological terms, critical thinkers developed their reason through experiencing and thinking, rather than making a judgment grounded in common sense. The first way shows the intentionality of human beings is different between critical thinkers and non-critical thinkers. The second

difference between critical thinkers and non-critical thinkers lies in the method they used.

However, God's authority would be hidden behind the efficient universality, in which the myth of the universe was worked out. The initial principle of the cosmic activity could be understood and it could be successfully tested in human life. Then universality would become an authority, like the authority of Heaven in Chinese thought.

Similarly, the supernatural mode of critical thinking can be seen in Babylonian history. As Sankey concluded,

The Babylonians were keen astronomers and made some very accurate observations of the stars... Yet, like all the other ancient civilisations, their view of the sky was mainly religious. The heavens were thought to be the home of the gods, and the sun and planets were thought to be gods. They developed the signs of the zodiac and studied the movement of the stars in order to learn how they influence human life (astrology). (Sankey, Sullivan & Watson, 1988, 8)

Critical thinkers themselves launched inquiry into not only "know-that" knowledge but also "know-how" and "know-why" knowledge, in order to

reach a profound understanding before accepting it. In contrast, other people merely accepted "know-that" knowledge from critical thinkers. In order to uncover the mystery of cosmic activity and work out an acceptable principle for life, critical thinkers shed light on questions such as, who creates the world and how, what 'the rule' of the creator is, and so on.

Skepticism marks the criterion for critical thinkers. Skepticism is more than curiosity. By skepticism, critical thinkers within the supernatural mode struggled to emancipate men from a blind acceptance of the activities of Heaven, even though the amount of knowledge they possessed was limited.

Critical thinking is not an isolated action, but a serial process of mental activity. Using skepticism, critical thinkers examined the situation they faced and targeted their purpose. They had to struggle against control from the external world, before a rule was established. Skepticism stimulated critical thinkers to investigate the world and person, whilst the ability of reflection helped them to understand the world in order to locate the problem which needed to be solved. Then, they reconstructed society

through emancipating* themselves from the yoke of the chaos. At that moment, critical thinkers, taking skepticism as the starting point, not only engaged in emancipation* from the constraints of Heaven or God, but also reconstructed human beings for a progressive life, in terms of the progress of knowledge and the enlightenment of reason.

Reflective characteristics are manifested in the process by which critical thinking was formulating rules from chaos to order, through skepticism (inquiry), reflection (understanding), emancipation and reconstruction (formulating rules). This process indicates human purpose: in trying to understand the meaning of life or the universe, and then aiming at building a role for the person. This is also the process towards autonomy.

Autonomy cannot be reached at the first try. It is a process of development, because to be autonomous is concerned with both personal development and the circumstances the person faces. Autonomy lies in the interaction between personal development and circumstances. On the other

* here, emancipation appears as a result of critical thinking, however, it also shows human intentionality to shake off the constraint of mystery, although they reconstructed an accepted principle in the belief of God's or Heaven's transcendental power.

hand, autonomy could hamper personal development, if it is distorted into egoism or concealed by false-consciousness. False-consciousness, here, means that individual judgment is confined to a certain value system without reflection, so that individual judgment may cause dysfunction on personal and/or social well-beings. In this sense, the function of autonomy, as an effective principle, could become negative rather than positive.

An enlightened reason could become a dominating authority over life, if the enlightened reason ceases to be reflected upon. Two reasons for the transfer of enlightened reason from emancipation to domination are: a) the new principle cannot be justified as the truth by dint of the limited amount of knowledge; and b) whether this principle can be acceptable depends upon the criterion of effective functioning in human life. Thus, the task of enlightenment of reason must be continuous, otherwise, today's enlightenment might become tomorrow's domination. The key reason for continuous reflection or enlightenment is that universality might be exclusive to human contingencies. In this case, if men did not reconstruct another principle for solving problems, then men would be forced into either adapting to universality, or suffering from perplexity. In these circumstances, critical thinkers could become dominators in society, if

other people lack critical thinking and merely adapt to the previous principle. Psychologically, if men lack critical thinking, they will prefer to adapt to the existing principle rather than stay in perplexity. Accordingly, the originally enlightened principle will stretch its power from efficient instrumentality to legitimation.

As the above analysis shows, critical thinking could be a paradox. Men and society need critical thinking to emancipate themselves from negative authority and reconstruct a rationality as the value system for their lives; on the other hand, the liberators - the critical thinkers will dominate those who lack critical thinking. If this is the case, then everyone should be encouraged to be a critical thinker. Also, no matter whether there is a guarantee of final truth, critical thinking must be a process of continuous reflection, otherwise, the negative function cannot be avoided.

Bringing people to be autonomous is a motive of critical thinking though critical thinkers in the supernatural mode might not have put it in this way. Take, for example, critical thinkers within the supernatural mode. They believed in the authority of God (the West) and Heaven (the Chinese), yet, they also contributed to personal and social developments, in terms of cognitive attitude and methods. They helped people to understand the

world, to reduce external control, and to construct a rationality for human development, when they analysed the mystery of the universe. It seems to me that the range of autonomy might be varied, which is corresponding with human knowledge and circumstances. If this is the case, to be autonomous, like the task of critical thinking, must be continuously developing.

Human life is also continuously developing. For example, people made a great advance in material civilisation during the Shang Dynasty, which is one of the most civilised stages in Chinese history. This progress can be shown from the facts that human civilisation was transformed from the Stone-age to the Bronze-age, and pottery became covered with geometric designs. These achievements revealed an advance in human knowledge. At the least, geometric designs, at that moment, acquired two significances for human progress in life. One, knowledge was not only an abstract theory, but also applied to reality; and life has not only the physical aspect, but also the aesthetic aspect. This is the contribution of self-actualisation.

Trying to understand the world more implies psychologically trying to escape from its control. This intentionality implies that critical thinkers within the supernatural mode tried to strengthen the role of the person in

the world. The more one can grasp the circumstance, the more one can be autonomous, and the less one will be controlled.

Self-realisation, self-reflection and self-actualisation constitute autonomy, while autonomy qualifies a person as a critical thinker. Let us take the master and the expert for example. Critical thinkers can be distinguished from others by virtue of the distinction between the master and the expert.

Masters show their abilities of self-knowledge and self-reflection, while experts exercise their skills. Masters commit themselves to the activity when they demonstrate their abilities, while experts are alienated from their achievements. In this sense, an expert can display the skills of critical thinking; he might be skillful in solving problems by using effective principles, however he is not a critical thinker. In other words, he may be good at operating the skills of inquiry, examination, formulation and so on, but he operates these skills without reflecting upon the rationality of principles he uses - he does not ask questions, such as, what are 'my' intentionality and purpose? Do I reflect upon the rules before I use them? Do I consider multiple dimensions of circumstances? and so on. Therefore, the skills of experts all issue in the same results. In contrast, each master could reach a different product. They are committed to their tasks so that their diversities are shown in their achievements. In a word,

an expert is just a person who is doing without reflective thinking. He is not an autonomous person. In this way, those who lack the abilities of self-realisation, self-reflection, self-actualisation, and whose rationality is grounded in instrumentality rather than subjectivity, cannot be masters.

From the above case, autonomy is significant for critical thinkers. If critical thinkers were not autonomous people, critical thinking could be developed as merely an instrument for understanding the world.

The characteristics of critical thinking, skepticism, reflection, emancipation from preconceptions, reconstruction and autonomy have been explained in this section, so they will not be repeated within the following modes. Rather, I shall stress the characteristics which are significant within the other modes but are lacking or weak in the supernatural mode of critical thinking. In addition, the comparison between different modes will be discussed.

II. The empirical mode

Skepticism is one possible way which is open to us of viewing our situation and reflecting upon ourselves. With skepticism, critical thinkers within the empirical mode reflected upon the achievement of the supernatural mode

of critical thinking. When men ask questions such as, what is God? does it exist? what is the world? how does God create the world? how should men follow the *supernatural law* ? can men create any law for themselves? etc., the previously accepted universality, and the relationship between the world and men are reflected upon. Darwinism is an outcome of such inquiries, which tried to answer the questions raised in *Genesis*. Therefore, this sort critical thinking, which involves reflecting upon religious rationality is classified into the empirical mode of critical thinking in this thesis.

The abilities of skepticism, reflection, emancipation and reconstruction are common characteristics for critical thinking. They are revealed not only in facing problems in the supernatural world, but also in the natural world. I shall go further to justify this.

Critical thinkers within the empirical mode tried to work out a 'useful' principle for solving human problems both in the supernatural and natural worlds. This intentionality can be seen in the history of the natural science. The universality was assumed to apply to all phenomena comprehensively, so that human activities and experiences can be expressed in it and through its methods of reduction and induction. "A scientist, for instance, may see

his work as a way of making a comfortable living, as a vehicle of his ambition for prestige; it may satisfy a fascination with solving puzzles; and it may express his wonder at the glory of the universe" (Winch, 1987, 137). There is a hint in the last phrase that critical thinkers within the empirical mode intended to combine knowledge about the supernatural world with knowledge about the natural world. In this sense, they intended to establish a universality for not only the natural world but also the supernatural world.

The empirical mode of critical thinking aims at establishing an objective universality to explain all human activities as well as other events. The empirical mode of critical thinking can also be identified in terms of human *purpose*: having control over human life through a single kind of universality. With the triumph of Copernicus and Galileo, and with the amazing rise of exact science, critical thinkers within the empirical mode were interested in discovering the objective universal law of the natural world. In a word, they tried to emancipate themselves from the religious authority and to reconstruct an objectivity by and for themselves.

Skepticism stimulates men to question the previous authority, whereas reflection brings men to emancipate themselves from the previous

authority. Then, the previous authority (rule) will be rebelled against, and a new rule could be reconstructed. That is the process of critical thinking, i.e. skepticism (inquiry) -----> reflection (understanding) -----> emancipation* ----> reconstruction (formulating a rule). Three possibilities to constitute a new principle in this process are: a) the previous principle is completely replaced; b) the previous principle integrates with a new circumstance, and c) the previous principle is justified and confirmed again. In other words, similar to the supernatural mode of critical thinking, skepticism stimulates men to question the objectivity of the principle, and reflection brings men to struggle for a better rationality which is not confined to a certain archimedian point. Meanwhile, emancipation prevents us from being confined to an archimedian point, while reconstruction builds up universality.

Critical thinkers within either the supernatural mode or the empirical mode intended to establish a universality for human life. Yet, the substance of universality, established by different modes of critical thinking, is different. The universality established within the supernatural mode of

* emancipation features here as if it was a mental process. However, it must be grounded in the results of inquiry and reflection.

critical thinking is grounded in 'reason', while it was grounded in objectivity within the empirical mode of critical thinking. Instead of believing in religious relation, critical thinkers within the empirical mode believed in scientific inquiry. For example, Francis Bacon's inductive method, Thomas Hobbes' mathematical application were cases of scientific method.

Method is the vital sign of the empirical mode of critical thinking. Critical thinkers within the supernatural mode shared imaginative method with critical thinkers within the empirical mode. Both of them framed hypotheses, but critical thinkers within the empirical mode, instead of simply reasoning about their experiences and imaginations, collected facts, tested hypotheses, and then formulated a law, which was viewed as scientific truth. In this case, their methods showed the vital sign of the empirical mode of critical thinking. They are neither the method of observation nor imagination with reason, but the methods of collecting facts and testing hypotheses. These are parts of inductive method.

According to the above analyses, the purpose and the sequence of the empirical mode of critical thinking are the same as the supernatural mode of critical thinking. Both of their purposes lay in forming universality

through serial activities of thinking, i.e. skepticism, reflection, emancipation and reconstruction.

On the other hand, their crucial differences lay in intentionality and methods. Critical thinkers within the supernatural mode focused on religious worship, while critical thinkers within the empirical mode targeted the natural world. This difference of intentionality constitutes the different substance of universality. Therefore, critical thinkers within the empirical mode established universality grounded in objectivity, instead of reason without verification.

Critical thinkers within the empirical mode made progress for human life, including the discovery of empirical methods, and the extension of human insights from the religious dimension to the dimension of the natural world. More significantly, the empirical mode of critical thinking produced enlightened reason, by which men emancipated themselves from religious authority. Accordingly, human autonomy was confirmed through controlling the natural world. The achievement of the supernatural mode of critical thinking was a sort of miraculous 'knowledge', whilst critical thinkers within the empirical mode seemed to go toward the enlightenment of reason further and deeper than those within the supernatural mode.

Emancipation and reconstruction are revealed within the empirical mode of critical thinking. Human development was promoted from following God's law to inquiring into the objectivity of supernatural rules, and to formulating the law of the natural world. This also reveals men's spirit of autonomy. They tried to control the natural world by discovering the natural law.

The motive of autonomy pushed men to question whether religious reasoning is sufficient for human development. Critical thinkers within the empirical mode perhaps found that religious reasoning locked human knowledge, ability and circumstances into the framework of the a priori, so that men could not be capable of being themselves, in terms of controlling their circumstances and themselves. It is through reflection that critical thinkers within the empirical mode emancipated themselves from the domination of religious worship.

Knowledge is a necessary condition for making progress. As Theobald emphasizes, "the progress of science depends upon the scientists' ability to see the unfamiliar as an example of the familiar, to see therefore the familiar anew and to see it with new words" (Theobald, 1968, 36). It is

evident that, with the increase in knowledge, methods for solving problems were improved. The improvement of tools became an effective help for critical thinking within the empirical mode. Tools helped critical thinkers to emancipate men from the myth of the supernatural world. As Wald claims, "men's generalising and abstracting power increased with their increased mental power over the environment, with the improvement of tools" (Wald, 1975, 129).

The experimental method of Francis Bacon could be viewed as the hallmark of scientific method. His method became the basis of the appeal to experience of John Locke and David Hume, the basis of Cartesian method, and even, indirectly, the basis of the transcendental method of Kant. This becomes clear to us from Miller's explanation that

Locke is, in one basic sense, the leading spirit of modern scientific empiricism, even though men like Bacon helped to introduce the empirical method. He switched his emphasis from philosophical subject matter to methodology... Along with Descartes, Locke was one of the first to give extreme prominence to the question of how we know what we know.

(Miller, 1971, 10)

As Sankey says, "the new view or picture of the world may be so powerful

that it changes the course of history" (Sankey, Sullivan and Watson, 1988, 31). It was hoped that with critical thinking, natural science would be increasingly adequate in dealing with our experiences (in the laboratory) (Theobald, 1968, 12). Then, "the discoveries of Copernicus, Galileo, Darwin, or Heisenberg did not mean only a change of theory. They came into conflict with dominant views and caused many moral dilemmas" (Hilpinen (ed.), 1980, 160). These moral dilemmas stimulated men to think about the role of the person again.

Reflection with the aim of autonomy and with the improvement of methods leads to scientific knowledge developing continuously. Conflict and inconsistency, as in the case of moral dilemmas, causes men to reflect. Reflection is stimulated by circumstances of cognitive conflict, in which present knowledge is unsatisfactory. Popper claimed that science is not static knowledge, though its aim is to "find satisfactory explanations" (Popper, 1972, 24). Theobald provided an example to prove the necessity of the continuous process of scientific discovery. He showed that "the place of geometry in physics has been discussed since Greek times. For Democritus, the atomists and the pythagoreans, reality was numerable, that is, it consists of countable points. But the view suffered from the irrationality of $\sqrt{2}$ " (Theobald, 1968, 6).

Irrationality implies a conflict-situation, which cannot be solved through the previous law. It was because of irrationality that scientists were forced to rethink previous principles. That is, reflection emerges from a conflict-situation, from which people suffer. For critical thinkers, a conflict-situation emerges not only from the outer conflict, but, more importantly, from inner struggle for autonomy.

The motive of autonomy and the experimental method inspire men to reflect upon not only the unsatisfactory achievement, but also the universality which was established on the basis of religious authority and through ritual terms. In this sense, the desire for emancipation is raised by the intention of autonomy. Theobald said that "Bacon wishes to see no return to the medieval situation where knowledge was in the hands of a few privileged persons, i.e. the clergy and nobility" (Theobald, 1968, 74).

Bacon deserves to be called a critical thinker, not only for his discovery of the inductive method, but also for his questioning of authority. Bacon questioned the authority which was held by both a certain school of knowledge and by the people who have political power.

The nature of critical thinkers must not be limited to the level of skill. I

have compared the master with the expert for example to reveal that it is inadequate to limit critical thinking to the level of skill. However, critical thinking is inevitably taken as a skill, or a set of skills of thinking in order to solve problems, in particular, within the empirical mode. The empirical mode of critical thinking contributed to human progress especially in terms of the discovery of methods. In addition, the improved method opened a possibility for men to control their circumstances.

Nevertheless, for critical thinkers, the ability of critical thinking is not only skills or knowledge, but also the disposition of critical thinking. In other words, human insight integrates skills and knowledge with dispositions. Thus, critical thinking cannot be seen as merely a skill or disposition, but needs to be perceived also as insight.

The term 'insight' is borrowed from Lonergan. Lonergan takes the story of Archimedes to suggest that "Archimedes had his insight by thinking about the crown; we shall have ours by thinking about Archimedes" (Lonergan, 1957, 3). He also points out,

what we have to grasp is that insight

1) comes as a release to the tension of inquiry,

- 2) comes suddenly and unexpectedly,
- 3) is a function not of outer circumstances but inner conditions,
- 4) pivots between the concrete and the abstract, and
- 5) passes into the habitual texture of one's mind. (Lonergan, 1957, 3-4)

Therefore, 'insight' can be viewed as an approach to understand circumstances. It is insight that constitutes the possibility of learning and understanding. In this sense, learning or understanding can be viewed as the result that men add insight to a further insight. In this thesis, insight is constituted by intentionality and cognitive style, while human beings exercise their insight in method-choosing and purpose-setting. Therefore, insight is gradually complemented with the horizon of reflective understanding. In this way, critical thinking is marked into various forms due to the range of insight.

The relationship between critical thinking and human insight can be drawn in figure 3.1.

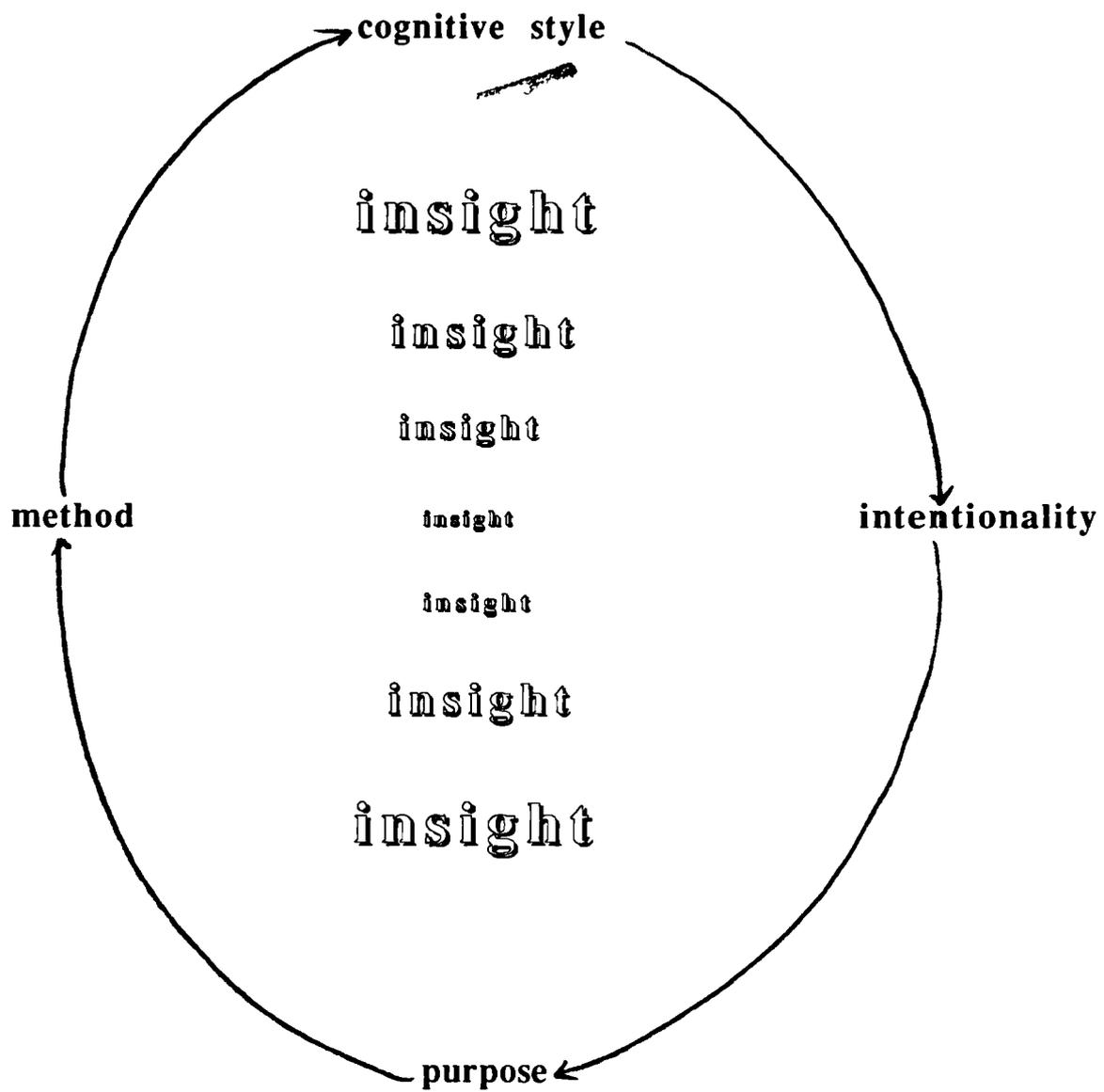


Figure 3.1 The relationship between critical thinking and human insight

The above figure shows that cognitive style offers the resource for critical thinkers to focus their intentionality, locate their purpose and choose suitable methods to reach purposes. Cognitive style, formed after reaching a purpose, will be complemented with the increase of knowledge. In this sense, cognitive style constitutes the basis of human insight, and insight synthesises the constituents of critical thinking: intentionality, purpose and method.

For instance, in ancient Greece, critical thinkers worked out the order of the spheres by recording the movements of the sun and planets. At that time, simple mathematical theorems were used to combine their intuition and meditation with their religious beliefs. In this case, their intentionality was the myth of the universe; their purpose was to decode this myth; and their cognitive style was based on religious knowledge. Consequently, they worked out the answer with ritual terms, and established universality in terms of acceptable reasons with religious worship. In other words, human insight within the supernatural mode of critical thinking constitutes a religious understanding about circumstances, so that critical thinking was grounded in religious worship.

However, with the help of Copernicus, Galileo and Newton's scientific

discoveries, critical thinkers developed their insight into the truth of the natural world through scientific investigation. Therefore, they focused on different intentionality and purpose from those of the supernatural mode of critical thinking. They verified the truth by empirical methods rather than imagination and intuition.

The empirical mode of critical thinking might be far more difficult to develop in Chinese society than in Western society. Although scientific intentionality on controlling the natural world seemed to be revealed in Chinese thought, especially in *Hsun-tzu's* theory. *Hsun-tzu* says,

you glorify nature and meditate on her, why not domesticate her and regulate her? you obey nature and sing her praises, why not control her and use her?... you depend on things, marvel at them, why not unfold your abilities and transform them? ...you vainly seek into the cause of things, why not appropriate and enjoy what they produce? (*Hsun-tzu*; Knoblock (trans.), 1988, 236)

Hsun-tzu's exclamations can merely reveal the wish to control the Nature. Yet, there is no evidence to show the achievements of enlightened sciences in Chinese culture. Besides, from the above quotation, 'why not' implies a contradiction between an ideal and the status quo. In other words,

following the Way of Heaven was accepted as social legitimation in that society, and *Hsun-tzu* tried to change this social value system. However, in the end, *Hsun-tzu* failed to persuade people to take control of the natural world; they continued simply to appreciate and enjoy what the natural world offered. That is also the reason why I claim in this thesis that there was no enlightened science in Chinese society and also the empirical mode of critical thinking is hard to develop in Chinese society.

Although Needham appreciated the relation of Confucianism and modern science (Needham, 1971, 26 - 9; 493 - 5), the Chinese do not successfully shake off the yoke of the authority of Heaven. They suffered from the ingrained idea - the authority of Heaven and Confucianism. (This has been analysed in chapter two.) Throughout Chinese history, there were scientific discoveries, e.g., the compass, movable type (the techniques of print), gunpowder and acupuncture. Yet, the fundamental spirit of the 'scientific' discoveries is far from that of enlightened science in the West. Scientific spirit here includes not only the epistemological attitude, but also the enlightenment of reason, by which men tried to unfetter the domination of the supernatural force.

The scientific discoveries in Chinese society might be masked by the form and the content of science, yet, they are not grounded in enlightened reason. That is, the Chinese discovered scientific tools and knowledge, but they had never intended to create a rule to control Heaven. Confucius claimed that "human beings cannot be allowed to rebel against the Way of Heaven" (Confucius, *The Analects*). Instead, the Chinese invented the rule to be accordance with the Way of Heaven, while enlightened science in Western countries was open to a possibility for human beings in controlling the natural world.

III. The subject-dialectical mode

Skepticism and reflection on the empirical method resulted in the subject-dialectical mode of critical thinking. The achievement of the empirical mode of critical thinking was still unsatisfactory, although the vagueness about the supernatural world was partially revealed. Scientific achievements helped critical thinkers to go beyond human experiences and beliefs. Namely, by the discovery of scientific techniques, unfamiliar religious beliefs were replaced by familiar scientific knowledge. As P. Winch says, "science has developed out of common-sense ... and has better

techniques of observation and reasoning" (Winch, quoted in Tran, 1989, 92).

Nevertheless, as Habermas in *Toward a Rational Society* (1971) claimed, science, by way of technology, should extend human knowledge not only about the natural world, but also about the social world and the aesthetic world. Thus, whether a universality grounded in the natural world is sufficient for both the social world and aesthetic world, and whether human beings are dominated by the natural power, caused men to reflect upon the achievement of the empirical mode of critical thinking.

Different insights constitute different modes of critical thinking. From the contributions of critical thinkers within the supernatural mode and the empirical mode, it can be seen that critical thinkers within different modes possess the similar characteristics of skepticism, reflection, emancipation and reconstruction, but their insights, i.e. intentionality, purpose, cognitive style and method are not necessarily similar to each other.

For example, morality rather than the natural science was emphasised in Chinese society, because the Chinese believed in the authority of Heaven. In a word, the insight of the Chinese lies on the supernatural world. The

beliefs were shown in such as, "*I-Ching* attempts to give a cosmological explanation. *The I-Ching* became for some a key to a metaphysical design governing events" (Meskill, 1973, 29). According to *I-Ching*, "what exists before physical form is called the *Tao*" (*I-Ching*), and in *Tao De Ching*, "the *Tao* that can be trodden is not the enduring and unchanging *Tao*" (*Tao De Ching*). That means that *Tao* is the Way of Heaven, which controls all things and cannot be transcended.

It is negative ideology that hampers the development of enlightened reason in Chinese society. In the fact that enlightened reason was not developed successfully in Chinese society, the transformation of ideology from a positive function to a negative effect is revealed - from solving human problems effectively, to the universalisation of all events, and the avoidance of examination of them. Therefore, any rule should be reflected upon before and after being accepted or rejected, otherwise, it may become an authority and keep men from rational life. The effect of the negative function of ideology is described by J. Passmore that "outside the church there is no salvation" (Passmore, 1978, 56).

Thus, when rejoicing in the achievements of science (i.e. natural science), we should question the authority hidden behind its achievements such as,

should it be only science that handles concepts or techniques? Should critical thinking perform just the same function as science? Are the rules of the natural world sufficient and universal for human life? Clearly they are not. (People tried to apply scientific methods and findings to the whole range of human experiences. This turned the natural science into a dominating force.)

Objectivity within the empirical mode of critical thinking was established through the processes of reflection and reconstruction, as Theobald's description. He described that "all our judgments are at first merely perceptual judgments, and are valid only for us, and only subsequently do we invest them with new reference, reference to an object, and make them valid at all times both for us and for everybody else" (Theobald, 1968, 110). However, whether there is an absolute objectivity is still arguable. Kant claims, "human experience never confers on its judgments true or strict, but only assumed and comparative universality, through induction" (Kant; Smith (trans.), 1968⁹, 44). Further, he claimed that a pure logical judgment is a problematic judgment. He says,

problematic judgments are those in which affirmation or negation is taken as merely possible (optional). The problematic judgment is thought only as

an optional judgment, which it is possible to assume...The problematic proposition is therefore that which expressed only logical possibility - a free choice of admitting such a proposition, and a purely optional admission of it into the understanding. (Kant; Smith (trans.), 1968⁹, 109-110; also in Kant; Ellington (trans.), 1985, I, E-68)

After reflecting upon the absolute objectivity, the importance of subjectivity began to be noticed, in particular, in dealing with the relationship between the individual and society. Along with Kant, Hegel, Freud, Nietzsche and Marx can be seen as the major figures in recognising everyone as a person during the eighteenth and nineteenth centuries, when scientific knowledge gradually becomes a tyranny over human life. Critical thinkers advanced towards another new 'town' - the dialectic stage, in which they attempted to construct human dignity.

Enlightened science needs to be reflected upon and the enlightened reason needs to be examined as well. As Sankey claimed, "scientists usually think that they are getting closer to the truth, but there is always the possibility that today's theories will turn out to be only partly true. History shows that scientific knowledge changes" (Sankey, Sullivan & Watson, 1988, 17).

Critical thinkers tried to free people from the domination of enlightened

science. For critical thinkers, enlightenment must not only aim at deconstructing and reconstructing, but also at reflecting and developing continuously. The meaning of enlightenment, in Horkheimer's and Adorno's definition, is that "enlightenment has always aimed at liberating men from fear and establishing their sovereignty" (Horkheimer and Adorno, 1973, 3). Positively, the power of enlightenment can liberate man from fear. Negatively it can become a dominant power to limit men's freedom to reflect upon their own ideology. In this sense, the enlightenment of science needs to be examined continuously.

Philosophers like Descartes, Kant and Hegel etc. were keen on dealing with the relationship between the subject and the object. As Miller said, "Descartes sought to save his subjective system from pure skepticism by his appeal to a combination of the geometrical method...Kant entered the door that Descartes merely opened, in his stress upon the rational role" (Miller, 1971, 22). Kant points out three relational moments of thought. They are: "a) subject-predicate; b) antecedent-consequence; and c) whole-parts" (Kant; Ellington (trans.), 1985, II-E, 158). Earlier than his work *Philosophy of Material Nature*, Kant in *Critique of Pure Reason* has pointed out four antinomies (Kant, Smith (trans.); 1968⁹, 396-415), which also shows Kant's methodology of dialectic. Further, Miller pointed out

that "they (most philosophers) have found it necessary to grapple with the problem of linking the thinker and their external world on a much broader and more rational basis which is particularly exemplified in the philosophies of Kant and Hegel" (Miller, 1971, 22).

Men were puzzled by the problem of self, when they suffered from the domination of the achievements of enlightened science. The 'instrumental reason', after 'formal rationality', with its technological and scientific revolution shows off its power to dominate human beings by its conspicuous achievements. Davidoo confirms Adorno's critique and claims that "the empty phrase, man, distorts man's relation to his society as well as the content of what is thought in the concept of Man" (Davidov, in McLean (ed.), 1991, 246). This was the circumstance with which critical thinkers within the subject-dialectical mode were confronted.

In a word, they faced three issues:

- a) whether science is the universal paradigm of rationality;
- b) whether scientific rationality is good in a particular sphere, or is unavoidably pervasive across human life; and
- c) whether we must sacrifice the doings of science to universality in order to open the gate to self, viz., self-consciousness.

In order to reach different purposes, different methods could be employed. Critical thinkers within the subject-dialectical mode used different methods from those who within the supernatural mode or within the empirical mode. The crucial method used by critical thinkers within the subject-dialectical mode is dialectic method, which was used by Hegel.

Hegel, immediately after Kant, provided the dialectic as a new method for critical thinkers to answer the above questions. In this sense, Hegel viewed himself as a *Protestant* who "identifies the perceptions of reason with faith" (Here, Protestant was taken as the rebel Christian.) (Lowith, Green (trans.), 1964, 19), and tried to construct a world in which man can live with himself (Hegel, Miller (trans.), 1977; Lowith; Green (trans.), 1964, 28). This examination consists of an examination of *noesis*.^{*} That is

* noesis: according to Husserl, noesis is the act of consciousness, and anonymously implicit transcendental ego. He says, "because the locutions, moments of consciousness, awarenesses, and similar constructions, and likewise because the locution, intensive moments, are made quite unusable by the many different equivocations which will be distinctly brought out in what follows, we introduce the term *noetic moment* or, in short, noesis" (Husserl; Kersten, (trans.), 1982, 205). In this thesis, the term noesis, borrowing from Husserl, is used to contain experiences of an intentional kind, and to inform an act of thinking towards the appropriate object.

neither phenomena as such (the enlightened science - Bacon, Locke, Hume), nor the conditions for the subject to gain truth (Kant), but the relationship between the subject and the object.

That is the dialectic reflection, by which critical thinkers within the subject-dialectical mode had avoided one-way thinking. They offered insights not only into self-knowledge, but also into the relationship between self and others. In this way, a critical thinker may emancipate himself from negative ideology, because he investigates problems not only from the positive viewpoint but also from the negative. The dialectical reflection includes three steps: first, grasping the relationship between the object and the subject; second, examining human beliefs by pointing out the inner force between the subject and the object; then, synthesising the rationality through the integration of the positive aspect with the negative. Wald simplified the dialectical law as follows:

For example, in the subject-dialectical mode of critical thinking, the relationship between the subject and the object is equivalent to noesis, because the relationship reveals the movement of a context. By grasping the relationship, the context can be understood, even though the context is shown in varied forms.

S is P and non-P
S is not P but non-P
S is neither P, nor non-P
but P and non-P

Chart 3.1 The dialectical law

source: Wald, 1975, 174

In addition to the difference of method, the crucial differences between the empirical mode and the subject-dialectical mode are intentionality and purpose. Critical thinkers within the empirical mode focused on the natural world, while those within the subject-dialectical mode bring universality to bear on self-consciousness. Namely, the authority which came from God was fought against by critical thinkers within the empirical mode, while the authority which came from the natural world was rebelled against by those within the subject-dialectical mode.

Critical thinkers within the supernatural mode, the empirical mode, and the subject-dialectical mode aimed at establishing universality. However, the substances of universality established by different modes are different. The universality established by the supernatural mode of critical thinking is grounded in the supernatural world, and its criterion is what seems reasonable; whilst the universality established by the empirical mode of critical thinking is based on the natural world, and its criterion is objectivity; whilst the universality established by the subject-dialectical mode of critical thinking is based on transcendental self, and its criterion is a relative subjectivity. In this case, individual freedom is picked out by critical thinkers within the subject-dialectical mode. In this way, individual autonomy within the subject-dialectical mode of critical thinking goes a

step further than its previous modes.

The subjective-relativism, established by critical thinkers within the subject-dialectical mode, like the previous universalities, might become a negative authority, if men cease thinking critically. Therefore, some questions were asked about whether Hegel's dialectical solution can play a universal role for personal and social lives, and whether the universality grounded in subjective-relativism can be absolute. Hegel's answers are positive.

For Hegel, the dialectic is the reconciliation of being and non-being via becoming, when becoming is extracted by an inner force which is the relationship between the subject and the object, the object and the object, and the subject and the subject (Hegel; Miller (trans.), 1977). For dialectic, being, non-being and becoming are the primary categories both of cognitive knowing and the real (Harris, 1987, 174). Habermas explained that "Hegel's concept of Spirit is an implicit criticism of two kinds of one-sidedness, one the mirror image of the other" (Habermas; McCarthy (trans.), 1987, 9). That is, one focuses examining on the object, the other on the subject. If this is the case, dialectic does not leave its contradiction abstract, but the contradiction functions as a motor of the

conceptual movement to the binding decision concerning what has been phenomenologically asserted (Adorno; Domingo (trans.), 1982, 6).

To be precise, dialectical method functions effectively in overcoming the conflict through its synthesised integration. Harris appreciates that dialectic "is the appropriate theory of change and development, but it is not restricted to the dynamic and flowing, for it also makes room for coexistence and fixing" (Harris, 1987, 169). Throughout history, the person is assumed to be a dialectical unity between the natural and social worlds, between the individual and society, and between the object and the subject. According to Hegel, man is not only the crystallisation of self-knowledge and circumstances, but also a creation of continuous becoming, and spirit is taken as the universality of becoming and developing (Hegel; Miller (trans.), 1977). Therefore, for Hegel, his dialectic solution is able to play a universal rule for personal and social development.

As analysed, dialectical method was used in Chinese thought to connect men with the Earth and Heaven. However, the subjectivity in Chinese thought is not as the same as autonomy in Hegel's spirit. According to *Chuang-tzu*, the man is as a microcosm, a miniaturised version of the universe which

contains all the elements necessary to make up Heaven and the Earth (*Chuang-tzu*, *The messes*). Therefore, the true self must return to Tao, the Way of Heaven. In this sense, individualisation is compatible with collectivism in Chinese thought.

Self-consciousness is the intentionality of critical thinkers within the subject-dialectical mode. It is significant that critical thinkers within the subject-dialectical mode tried to be autonomous by emancipating themselves from the domination of scientific rationality. Brookfield's suggestion, "trying to shake off habitual ideas and behaviours so that we can try out alternatives are emotionally potent activities. They, of course, may well produce anxiety, fear, resentment and feelings of being threatened or intimidated" (Brookfield, 1987, 232), so that not only wisdom but also courage and will are required for autonomy. As P. White and A. O. Rorty claim, "traditional courage is a set of disposition to overcome fear, to oppose obstacles, to perform difficult or dangerous actions" (Rorty, 1986, 151), and redefined courage "enables us to act well under stress, against our natural inclination towards self-protection" (White, 1988, 69).

The dialectical universality needs to examine not only the relationship

between commonality and individuality, but also the relationship between subjectivity and autonomy. Confucius claimed that there is a common nature among men and therefore established a moral principle that "whatever you do not want to have, you should not give it to others" (Confucius, *The Analects*), which is based on the compatibility of individuality and public. It is not too hard to find out an example to debate against Confucius' principle in daily life. Is it wrong to 'give' the clothes what you do not want to have to those who need them? Is it wrong to elect others as leader because you do not want to be the leader? In fact, this principle can be understood merely as one of the possibilities. The criterion for this possibility is whether human intentionality and purpose are the same as each other.

In the above case, whether subjectivity can develop on the basis of universality is dubious. D. Cooper claimed that existential freedom is a fusion of individualisation and wholeness etc., and it is connected with matters of responsibility and commitment (Cooper, 1990, 147). In principle, individuality can be compatible with wholeness, while in practice, the trouble is that socialisation unavoidably shaped the individual into conformity with the whole. This trouble has been revealed in Confucianism.

The individual cannot be autonomous, if self-actualisation is limited to a closed framing, e.g., collectivism. Self-actualisation plays an instrumental role, if it is not grounded in self-knowledge and self-reflection. Self-knowledge deals with blindness to self (Mischel, 1977, 179-196), whereas self-reflection copes with self-deception (Cooper, 1990, 117-9), which is a 'bad faith' or 'false-consciousness'. Therefore, men cannot be autonomous unless they have the abilities of self-knowledge, self-reflection and self-actualisation. In this sense, subjectivity cannot be reached within the framework of absolute universality, although Hegel's theory of Spirit was intended to be universal for both the subject and the object.

Inquiry is a stimulus for critical thinkers. As Popper claimed in his *The Open Society and Its Enemies* (1966), history is the process of problem-solving. We can never stop solving problems, because another problem will follow the current problem which has been solved. In parallel with this, after reflecting upon the natural world, critical thinkers within the subject-dialectical mode met another problem. They confronted the conflicts between the individual and society, between objective knowledge and the knowledge of intersubjectivity or subjectivity. Therefore, we must keep asking whether the universality which is

established by critical thinkers within the subjective mode is universal enough to embrace all aspects of self and circumstances.

It may be doubted if human ideology can be corrupted merely through reflecting on self-consciousness or by dialectic method. Apart from the above arguments, taking Chinese morality as another example, the *True Chun Tzu* (the virtuous man) has been taken as an ultimate criterion for the moral person since Confucius (Confucius, *The Analects*). *Chun Tzu*, acknowledged in *Analects* as the moral model, is a gentleman in every way. In such a case, the concept of *Chun Tzu* in Chinese morality functions as a universality. This ideology of universality stems from an ingrained concept in Chinese thought, i.e. the authority of Heaven. (This ideology has been analysed in chapters one and two.)

It is the case that we must reflect upon not only the individual consciousness, but also the social consciousness, so that the negative human ideology can be ruled out. These are the tasks of self-knowledge and self-reflection. In other words, reflecting upon self-consciousness or reflecting through dialectic method is helpful in examining negative ideology. Therefore, understanding hermeneutically the contexts of culture, society and grasping correctly the category of rationality are still

important to emancipate men from the negative ideology.

Hegel's dialectic logic manifests its significance in the subject-dialectical mode of critical thinking. Critical thinkers within the subject-dialectical mode focus on self-consciousness, by which being-in-itself (the subject) and being-for-itself (the object) can be integrated by dialectical method. Critical thinkers within the subject-dialectical mode turned their intentionality from the object to the subject, and to the relationships of the subject and the object. Their purposes were also changed from external objectivity to internal subjectivity. These changes imply that critical thinkers within the subject-dialectical mode broadened the range of science from merely dealing with the natural world to the relationship between the natural world and the social world.

IV. The communicative mode

The characteristics of critical thinking, i.e. skepticism, reflection, emancipation and reconstruction are still motives for human development. They bring men towards autonomy through the process of critical thinking: inquiry (skepticism) -----> reflection (understanding) -----> emancipation -----> reconstruction. More importantly, with these characteristics and

following this process, critical thinking was brought forward to the communicative mode, when men suffered from absolute universality.

Habermas' theory of communicative action is brought within the communicative mode of critical thinking. Three ideas are borrowed from Habermas. They are:

- a) critical theory lines up with historical research, and aims to keep people from losing their autonomy in a modern society (Habermas; McCarthy, (trans.), 1987, 382);
- b) critical theory "connects the lifeworld and system paradigms through autonomous action" (Habermas; McCarthy (trans.), 1984, xi); and
- c) critical theory confirms the function of dialectic. In Habermas's theory of communicative action, a dialectical process is expressed by characterising a rational person as a person who is able to put forward an assertion, criticise, justify the given situation in terms of grounds and evidence, legitimations and even intentions, and then provide reasons for their expression or arguments (Habermas; McCarthy (trans.), 1984, 15-8).

According to the previous investigations, dialectical method and spirit are emphasised by critical thinkers within the subject-dialectical mode, while to

be autonomous is a common motive for all critical thinkers. Habermas' theory confirms the significance of dialectic and autonomy. On the other hand, Habermas proposes the concept of quasi-universality (Habermas; Viertal (trans.), 1973, 35; McCarthy (trans.), 1979,3; Bernstein, 1983, 183) to overcome the predicament of Hegel's dialectical spirit. In this way, the historical research extends its meaning and range from events to culture, society and person; and communicative action bridges understanding between intersubjectivities. In this sense, critical thinking, added to the theory of communicative action, forms the communicative mode.

The communicative mode of critical thinking, like its previous modes, is a process and product of continuous activities of skepticism, reflection, emancipation and reconstruction. Facing different problems, men locate different purposes with different intentionalities. They reach their purposes through suitable methods, and then the cognitive style is reconstructed as soon as the outcome is reached.

In this way, critical thinking has been developed to the communicative mode, in which critical thinkers focus on reflecting upon the sufficiency of self-reflection, and on detecting the *dysfunction*, *depersonalisation* and

dehumanisation of lifeworlds, so as to reconstruct rational and communicative relationships between the subject and the object, the subject and the subject, and the object and the object.

Dysfunction, depersonalisation and dehumanisation are new foci for critical thinkers within the communicative mode to try to solve. These predicaments push them to question the sufficiency and adequacy of previous universality. Some of the features of the previous accepted universality which this critique picks out are:

- a) a misunderstanding of the nature of truth (It is a critique of empiricism which concentrates on the object, and/or of idealism and transcendentalism which emphasise the subject);
- b) a misconception of methods (It is a critique of positivism and scientism which believe in the omnipotent role of scientific method) ;
- c) a false, naive belief in the nature of rationality (It is a critique of positivism and rationalism alike); and
- d) a logic of domination (It is the logic of identity, which assumes that there is a universal truth, and it can be deduced by methods or logic).

The concept of absolute universality is questioned and replaced by the concept of quasi-universality. No matter whether truth, rationality,

method or logic is involved in a claim for universality, universality is just valid within the given circumstances. This has been shown from the history of the development of natural science, e.g., before quantum mechanics, the ideas of absolute space and time left scientists in a state of controversy and uncertainty (Russell, 1988⁵, 525). Similarly, in the social world, e.g., criteria for morality, good and beauty are different both between various cultures, and between varied ages within the same culture. The scientific history and the criteria for morality, good and beauty are not my focus here. I am suggesting that critical thinkers within the communicative mode understand that trying to use any unique method or logic to undertake all human problems is a myth, and trying to explain lifeworlds by an absolute universality is utopian.

Intentionality, purpose, method and cognitive style are changed within the communicative mode of critical thinking. Critical thinkers within the communicative mode cope with the conflicts of object-object, subject-object and subject-subject, therefore, dialectic method has been extended from the individual aspect, i.e. self-consciousness, into lifeworlds, i.e. the material life, and the life of value and religion. Meanwhile, their intentionality has been changed from self-consciousness to lifeworld. Also, their purpose is transferred from universality to *quasi-universality*. These changes show

the reason why Habermas' critical theory is brought in.

Habermas tried to build a quasi-universality of rationality through communicative action (Habermas; McCarthy (trans.), 1984). Quasi-universality comes from an uncoerced communication so that an undistorted consensus is possible (Habermas; McCarthy (trans.), 1984, 296-297). He picked up the Hegelians' concept of synthesis to claim that an intersubjectivity shared lifeworld is possible. Furthermore, a *quasi-universality* is taken as a criterion to balance the conflict between the subject and the object, the object and the object, and the subject and the subject (McCarthy, 1978, 110-111). Hereby, the conflict between the individual and society will be conquered via communicative action or discursive action. (The reason why a quasi-universality can be rationally established via communicative action will be explained in chapter five, where the rationality of a good life will be analysed, and the rationality will be established on the ground of good argumentations rather than good reasons.)

The conflict between the subject and the object, and the individual and society can be overcome, during the course of reflection and reconstruction. In addition, a tentative consensus will emerge as the

criterion for rationality. Meanwhile, people emancipate themselves not only by their communication with others in circumstances of security, freedom and respect for persons, but also by self-reflection upon their own ideology.

Instead of one-way thinking, a concept of varied, tentative rationality becomes the intentionality of critical thinkers within the communicative mode. Basically, this concept emerges partly from reflection upon previous universality, partly from Habermas' idea of knowledge and human interests. That is, negatively, previous universality is shown to be not sufficient for lifeworlds; positively Habermas' quasi-universality compensates the insufficiency of universality. According to Habermas, lifeworlds include three kinds of sciences, i.e. empirical-analytical, hermeneutic-historical and critical sciences. Also, each science is established on a sort of human interest, i.e. technical, practical and emancipatory interests (Habermas; Shapire (trans.), 1971).

The criterion for truth, therefore, in different sorts of sciences is varied. For instance, scientific knowledge in the view of positivism or neo-positivism, in particular Popper, is independent of the knowing subject. As Magee concluded, "knowledge in the objective sense is

knowledge without a knower: it is knowledge without a knowing subject" (Magee, 1975², 72). However, in Habermas' critique, objective knowledge is merely one kind of knowledge, and its tentative nature will cause its renewal. In this sense, social life requires a tentatively intersubjective truth, which is different from the truth of objectivity in the natural world.

Similarly, instead of the absolute universality which was established within the previous modes of critical thinking, critical thinkers within the communicative mode intend to work out various forms of quasi-universality of rationality for different problems. It seems that criteria for rationality within the communicative mode of critical thinking are more varied and broader than in previous modes of critical thinking.

The contribution of the communicative mode of critical thinking is shown in looking into more encompassing aspects of human activity than previous modes. The dimensions of human activities they searched are:

- a) the man-nature relationship: (all modes of critical thinking might be used, especially, the empirical mode of critical thinking);
- b) the man-man relationship (intersubjectivity): (the communicative mode of critical thinking is especially taken); and
- c) the man-God, and man-himself relationships (for example, hope): (apart

from the communicative mode, the subject-dialectical mode, and the supernatural mode of critical thinking could also be used.)

In brief, the communicative mode of critical thinking begins with dealing with the insufficiency of the universality in previous modes in two ways: first, searching for the categorical errors; and secondly, examining the possibility of universality. Then, the range of universality will be located through the actions of reflection and communication. Hence, a critical thinker will be assumed to be able to recognise these relationships as dealing with the problems he faces. The understanding horizon* in a certain range of knowledge, and the abilities of self-knowledge, self-reflection and self-actualisation with open-mindedness are needed for critical thinkers to reconstruct rationality in lifeworlds.

* horizon: The word has been used in philosophy since Nietzsche and Husserl to characterise the way in which thought is tied to its finite determination, and the nature of the law of the expansion of the range of vision" (Gadamer; Glen-Doepel (trans.), 1975, 269). Following Gadamer, I assume that an understanding horizon must be achieved in 'the fusion of horizons', in which "we regain the concepts of an historical past in such a way that they also include our own comprehension of them" (Gadamer; Glen-Doepel (trans.), 1975, 337). Therefore, the understanding horizon, in this thesis, is the range of vision that includes to know not only the flow of experiences, but also the relative significance of everything in the same horizon.

The insight of critical thinkers within the communicative mode can be shown in seeking the *noesis* of critical thinking. The intentionality of critical thinkers within the communicative mode is the relationships of the subject and the object, the object and the object, and the subject and the subject; and quasi-universality rather than universality is their purpose.

Critical thinkers within the communicative mode, by communicative action, deepen the understanding of the natural world or social world. There is a move from understanding the world through imagining, explaining and reasoning to categorising different lifeworlds; from establishing universality for the natural world and social world to overcome conflicts among different sciences via constructing quasi-universality. During this reflective process, critical thinkers must consider questions such as, whether conflicts arise among varied categories of sciences; whether categorical errors are made, so that knowledge becomes hardly intelligible or reasonable; and whether rationality is far from sufficient for consensus among different viewpoints. The characteristics of critical thinkers are again revealed from the process of skepticism (inquiry) ----> reflection (understanding) ----> emancipation ----> reconstruction.

Conclusion

According to the above investigations into the developmental history of critical thinking, skepticism (inquiry), reflection, emancipation and reconstruction constitute the characteristics of critical thinkers, whereas the motives of developing and becoming foment critical thinking. This is the reason why critical thinkers with the same characteristics perform different modes of critical thinking. In other words, synthesising critical thinkers' characteristics with the motives of critical thinking, critical thinkers show their different insights in different circumstances, which are constituted by intentionality, purpose, cognitive style and method. This can be shown from the fact that human knowledge has been extended, and men have progressively improved their lives, either in material aspects, or in moral or aesthetic aspects.

It is hard to deny that some of the ideas of these four modes of critical thinking are taken from Piaget's cognitive development theory, viz., the process of cognitive development and its concept of equilibrium, which will be quoted as follows. According to Piaget,

the cognitive structure is the system of connections that the individual can and must use, and is no way the contents of his conscious thought, since it is he who imposes certain forms rather than others, and this according to successive levels of development. (Piaget; Rosin (trans.), 1972, 33

He says, in explaining the concept of equilibrium "the fact is that a discovery, a new motive, a statement, etc. must balance with the others" (Piaget; Rosin (trans.), 1972, 29). He also stresses,

I (Piaget) take the word equilibrium not in a static stage but in that of a progressive equilibration, the equilibrium being the compensation by reaction of the child to the outer disturb balances... Equilibrium appears to me to be the fundamental factor of this development.. Balance takes time... but the equilibration can be more or less rapid. (Piaget; Rosin (trans.), 1972, 30)

Furthermore, critical thinkers deal with not only the problems of the individual but also those of society. In this respect, Kohlberg and Habermas' theories compensate for Piaget's insufficiency. Critical thinkers within the subject-dialectical mode of thinking and the communicative mode of thinking take Hegel and Marx's ideas of dialectic, and Habermas' theory of communicative action as their insights so as to figure out various relationships by finding out the *noesis* of the relationships of object-object,

object-subject, and subject-subject. The general movement of critical thinking, which is led by its *noesis* will be discussed in the next chapter.

Taking account of the vicissitudes of the world, Brookfield, unlike Piaget or Kohlberg, claims that "critical thinking is a dynamic and ongoing process to undertake stock taking" (Brookfield, 1987, 78). Therefore, critical thinking should be continuously developed, so as to avoid being confined to a negative ideology. Hegel's idea of dialectic and Habermas' idea of quasi-universality, therefore, provide critical thinking with theoretical foundations.

Critical thinking itself is an epistemological and dialectical process. According to its historical survey, critical thinking, epistemologically, emerges from a perplexing situation to which human problems give rise. This is the process of inquiry. Human problems stem from conflicts between human interests. Each human interest formulates a kind of science; each of which possesses its own logic and categories (Habermas; McCarthy (trans.), 1984, 51). Critical thinkers work out the logic and categories of various sciences or lifeworlds. This is the process of reflection.

After the processes of inquiry and reflection, a profound understanding can be reached. After reaching such an understanding, the conflict or perplexity can be penetratingly revealed and solved by examining the adequacy of fit between logic, category and its corresponding science. This is the process of emancipation and reconstruction - emancipation from the conflict or perplexity; reconstruction of other principles, i.e. rationality. This process implies that rationality is not necessarily universal.

The communicative mode of critical thinking covers the previous modes of critical thinking. The previous modes of critical thinking are not in themselves adequate as critical thinking, from the viewpoint of a critical thinker within the communicative mode. However, all of them had borne the characteristics of critical thinking. The reason why they are not critical thinking, after the communicative mode of critical thinking has developed, is that either their insights or characteristics have been merged into the communicative mode.

If people are to live as autonomous individuals in a democratic society, critical thinking must be cultivated, especially in Chinese society. As I have analysed, we can hardly find critical thinking in Chinese society. It is partly because traditional ideas, in particular, Confucianism, are deeply

rooted in Chinese thought; partly because education has been distorted by cultural, social, political and economic interests. Therefore, if we attempt to add critical thinking to Chinese society, educational reform must be taken as the first crucial step to emancipate people from clinging to a universal authority.

Education in Taiwan needs to be reformed and its crucial goal should be aimed at struggling for autonomy. Teaching critical thinking must be taken as the first step of such an educational reform.

The nature of critical thinking must be further clarified, before the teaching of critical thinking in Taiwan is carried out. In sum, the characteristics of critical thinking in four modes, in terms of intentionality, purpose, method and cognitive style, will be illustrated here in Table 3.1.

Table: 3.1 The characteristics of critical thinking in four modes

mode =====	I	II	III	IV
intentionality	supernatural transcendent world	natural world	transcendental world of self- consciousness	lifeworlds
purpose	universality through ritual terms	universality in physical terms	universality through spirit	quasi-univ- ersality on communic- ative action
methods	intuition logic mathematics	logic mathematics empirical research	dialectic	all possible methods, especially communic- ative action
cognitive style	imaginative- reason	experiential- empiricism	dialectical- synthesis	categorical- construction

From the above table, the general characteristics of critical thinking in different modes can also be briefly analysed as follows.

I. Working out an accepted answer to explain the enigma or mystery of the universe, by intuition, logic and mathematics. Meanwhile, a society with order is established from the chaos.

II. Taking the empirical research to establish a universal law to justify systematically the previous truth in physical instead of ritual terms. Consequently, a society full of objectivity, and non-imagination is expected. Men instead of God become the creators of the universe.

III. Focusing attention upon self-consciousness in order to emancipate human beliefs from the domination of scientism via the dialectic movement of self-consciousness. With the dialectic method and its spirit, critical thinking reveals the characteristics of reflecting, correcting, developing and becoming. Obviously, a society dominated by the material is reflected upon, and society with humanity is praised. The mental activity is noticed more than the physical activity.

IV. Concerning not only for oneself, but also for society. All methods, e.g., intuition, logic, mathematics, phenomenology, dialectic, hermeneutics and communication, could be used for an adequate rationality, based on

human interests and forming its science. Ultimately, the aim of critical thinking in mode IV is a democratic, autonomous society in which people possess communicative literacy, including abilities, skills and attitudes. As Kurfiss claims, "critical thinking is an essential capacity of citizens in a healthy democratic society... and it contributes to a more rational and human society" (Kurfiss, 1988, vi).

Chapter IV

***THE NATURE OF CRITICAL THINKING (II):
INTERPRETATION AND DEFINITION***

I. Critical thinking deals with universal and particular situations

II. Its commonality: revealing through manifesting its inner logic

A. Pivoting its common motive on autonomy

B. Interweaving genetic with dialectical development

C. Enriching cognitive style from one dimensionality to multi-dimensionality

D. Emancipating men from alienation

E. Establishing rationality as its inner logic

III. Reinterpreting its characteristics

IV. Redefining its meaning

Conclusion

Chapter IV

***THE NATURE OF CRITICAL THINKING (II):
INTERPRETATION AND DEFINITION***

In this chapter, I try to turn the fragmentary concepts of critical thinking into a system, which is grounded in its modes. Therefore, not only the noesis but also the definition of critical thinking must be dealt with. These are the two tasks of this chapter. The noesis of critical thinking can be shown in its dealing with universal and particular situations in life. The definition of critical thinking will be given through clarifying its commonality and reinterpreting its characteristics.

I. Critical thinking deals with universal and particular situations

There has been no consensus about the definition of critical thinking among those who study critical thinking nowadays. According to the records of ERIC (1983-1990), there are about two thousand articles on 'critical thinking and education'. (The main perspectives of critical thinking will be reviewed later on.) It seems that giving critical thinking a common definition is difficult.

Understanding the nature of critical thinking merely on the basis of epistemology will narrow the nature of critical thinking. Some psychologists, such as Glaser and Watson, develop tests of reasoning (Kurfiss, 1988, 8); others, e.g., Piaget, Ennis, study the organisation of knowledge, i.e. cognitive skills and reasoning abilities. (Piaget, 1968; Ennis, 1962, 1985); others again either following Dewey or influenced by Piaget, try to extend informal logical skills or reasoning abilities to reasoning dispositions or attitudes (McPeck, 1981, 59; Schrag, 1988, 80). All of them are dealing with critical thinking, but they limit critical thinking to the level of cognition, rather than understanding critical thinking as the whole dimensions of culture, society and person.

We have witnessed that most studies of critical thinking reduce it to either the technical level or to reasoning. For instance, Ennis takes critical thinking as rational reflective thinking concerned with what *to do or believe*. He lists twelve aspects of mental *skills* for critical thinkers (Ennis, 1962; 1985). In his recent work *Teaching Thinking Skills: Theory and Practice*, he stresses critical thinking as centring on "practical, reflective, reasonable thinking, belief, and action" (Ennis, in Baron & Sternberg (ed.), 1990, 10). Also, Kurfiss states that "in cognitive terms, critical thinking is problem solving in situations where 'solutions' cannot be verified empirically" (Kurfiss, 1988, iii). Like Ennis, scholars in the Centre for Critical Thinking in Montana State University define critical thinking as "a parallel process by which individuals analyse given information in a contextually specific situation and create new ideas, concepts, or constructs based on their analysis" (Fulton, 1989, 6). McPeck also claims that "the core meaning of critical thinking is the propensity and skill to engage in an activity with reflective skepticism" (McPeck, 1981, 22).

On the other hand, Siegel argues that "a critical thinker, then, is one who is

appropriately moved by (good) reasons: she has a propensity or disposition to believe and act in accordance with reasons; and she has the ability properly to assess the force of reasons in the context in which reasons play a role" (Siegel, 1988, 23). Yet, Siegel dislikes the term 'critical thinking'. He prefers to use 'good reason' rather than 'critical thinking'. He says, "I do not like the term 'critical thinking', because it gets confused with literature and critiquing" (Siegel, 1988, 11).

Baron holds that a critical thinker is capable of rational thinking, by which one might avoid being blind and remain open to other possibilities (Baron, 1988, 31), which is called by Baron 'open-minded' thinking. Baron emphasises the role of thinking in problem-solving, in relation to learning, intelligence, creativity, logic and disposition. He claims that "rationality concerns the methods of thinking we use, not the conclusions of our thinking" (Baron, 1988, 32). However, he acknowledges that "rationality is not the same as error. We can use good methods and reach erroneous conclusions, or we can use poor methods and be lucky, getting a correct answer" (Baron, 1988, 32). In addition, he did a research on 'overconfidence', and pointed out that "cultural differences affect the way that people think about probability [The research indicates the confidence

as a probability]" (Baron, 1988, 201). For Baron, critical thinking then is not only a set of skills or the outcome of problem-solving, but also a disposition and a process of rational thinking.

Schrag points out that critical thinking is a virtue as well as a skill. He argues that "if we define thinking by way of a certain normative model, say Dewey's complete act of thought, then our conception seems one-sided" (Schrag, 1988, 7). Apart from that, he does not "believe there are isolable, general strategies or skills for problem-solving" (Schrag, 1988, 77). He proposes that "both skills and virtue depend on innate capacities" (Schrag, 1988, 8). In this sense, although Schrag stands on the viewpoint of cognitive psychology, and maintains the importance of inner capacities, he has not shaken off the yoke of effectiveness. For example, he highlights the virtue of autonomy, but anchors it merely on the level of problem-solving (Schrag, 1988, 85).

There seem to be as many definitions of critical thinking as there are scholars. However, those who deal with critical thinking can be divided into two fields: philosophers and psychologists. Although both philosophers and psychologists have their own perspectives, they share at

lest one concern - the teaching of critical thinking. As Lipman summarises,

both philosophers and psychologists have come to view the teaching of critical thinking as their own special skill, but their perspectives are intrinsically different... One is grounded in the humanities and the other in the sciences. Philosophers are basically interested in the exercise of logic and reason as tools to elucidate certain fundamental truths... Psychologists, on the other hand, are concerned with the thinking process... Their field has evolved, not from argumentation and discourse, but rather from a tradition of objective experimentation and research. (Lipman, 1989, 2-3)

When noting the narrow development of critical thinking, Weinstein tries to broaden the concept of critical thinking by the connection of Habermas' theory and educational practice (Weinstein, 1990, 7-8). He claims that

the task for critical thinking is to develop an adequate theory that grounds a general strategy consistent with the particulars of education in many fields, while sustaining a clear and identifiable core that sufficiently distinguishes critical thinking from other general perspectives while offering guidance for practice unavailable elsewhere. (Weinstein, 1990, 7-8)

In my view, Weinstein has not gone far enough to show the cultural, social and personal aspects of critical thinking, although he has paid more attention to the real circumstances critical thinkers face than those who take critical thinking as skills and/or dispositions (Weinstein, 1990).

It can be seen from the above discussions that there is a crisis in the definition of critical thinking, because critical thinking itself is a dynamically developing ability rather than one which has reached a static end-point of development. As Hirst claimed, we cannot give any account of thinking either as an abstract movement of mind, or as *an operational machinery of the brain* (Hirst (ed.), 1974, 72). Similarly, it might be wrong to take critical thinking either as psychological: skills for problem-solving, or as philosophical: human reasoning. Therefore, giving critical thinking a definition through clarifying its inner logic might be an appropriate way.

An inner logic connects self-consciousness with the object of knowing. In other words, an inner logic locates the relationship between the object and the object, between the object and the subject, or between the subject and the subject. In this sense, an inner logic can determine the direction of a

movement of cognition and thinking. The inner logic of critical thinking here means its motive of thinking which indicates the direction of human insights, and locates the range of thinking. To be precise, inner logic of critical thinking is the relationship between intentionality, purpose, cognitive style, method-choosing and human insight.

The characteristics of critical thinking include the aspects of both the subject and the object. Critical thinking is not only a concrete operation of mind, but also an inner motive of human insight to locate the realm of intentionality, purpose, cognitive style, and methods of problem-solving. It manifests itself in various forms when it faces different circumstances, including the dimensions of the subject and the object. The dimension of the subject refers to human knowledge, including human intentionality and cognitive style; whereas the dimension of the object refers to the situation which man faces, including purpose and method. In this way, the common characteristics of critical thinkers can be divided into external and inner characteristics.

The external characteristics of critical thinking can be displayed only by the person who in Barrow's terms possesses 'the expert knowledge of

critical thinking'. According to Barrow, "the expert knowledge of critical thinking consists in assessing whether the individual has enough ability, the intelligence, the background and the state of mind to make something of it, to grasp the object which you want to criticise" (Barrow, 1984, 32).

External characteristics of critical thinking, the expert knowledge, can be acquired through learning. That is, a person can be trained to exercise the skills, and even possesses such dispositions such as, skepticism, reflection, emancipation and reconstruction, if he has inherent basic learning ability. However, the consciousness of autonomy can not be acquired through learning, rather, it must be acquired through the interaction between self-reflection and circumstances. To be precise, it is an ability of self-experiencing. Therefore, education can simply provide a learning circumstance, which is suitable for self-reflection and self-actualisation. Education, however, cannot 'teach' a person to be an autonomous person.

For example, education can offer the same contents for pupils who possess similar abilities and dispositions, however, it cannot be expected that those pupils will draw the same picture for their life, unless education proceeds under a dominated condition. Here, the abilities of emancipation and

autonomy are not clear-cut, because emancipation from alienation must be grounded in the consciousness of autonomy. Nevertheless, emancipation can be trained as merely skill, by which one can emancipate oneself merely from a certain range of external alienation, but can hardly from self ideology. This case is similar to the case of one-way thinking. Such people, on the face, reveal the characteristic of emancipation; on the other hand, they are in fact dominated by a certain ideology and can hardly be authentically themselves. If this is the case, then such a person is still alienated from himself so that he has never emancipated himself.

In this sense, external characteristics can be used to distinguish critical thinkers from others who lack critical thinking. However, there are no universal criteria by which to distinguish better critical thinking from worse, unless the comparison is limited to certain conditions, i.e. critical thinkers are asked to deal with the same situation within the same circumstances. Nevertheless, in practice, this comparison is of less significance. For example, we can probably evaluate comparatively the skills of two pianists, however, it will make no sense to compare their abilities at the level of interpretation of art. In addition, critical thinkers must be capable of dealing with different contingencies in their lives, and

their inner characteristic reveals human insights diversely in different purposes and methods. Therefore, the criterion for distinguishing better critical thinking from worse is hard to locate. More than that, it also makes no sense to improve the capacity of critical thinking.

The inner characteristic of critical thinking is displayed by an autonomous person. As mentioned, critical thinking is an insight of autonomous people. With this inner characteristic, people with critical thinking can emancipate themselves from authority, through reflecting continuously upon ideology. Then, the rationality of a good life may be reconstructed.

Critical thinking deals with both universal principles and particulars on the way towards the reconstruction of the rationality of a good life. Peter Winch says, "one's life is subject to contingencies, rather than an attempt to control these" (Winch, 1972, 40). This does not mean that Peter Winch agrees with the 'ambition' of scientists. Nevertheless, he assumes that there is a human desire for living in a easy way. This is also one of the reasons why universality has become the purpose of critical thinkers since the supernatural mode. With regard to universality, general principles can be used to reach one's purpose; while as for contingency, instead of general

principles, sufficient wisdom is required for solving different problems in different contexts. Therefore, there is no way to confine critical thinking to a specific type of thinking.

The function of critical thinking in dealing with contingencies also shows that critical thinking is not a purely genetic development. (The term 'genetic', which is borrowed from Piaget, will be explained later on.) As Theobald claims, the genetic development lacks a system of variables which we can deliberately manipulate to change society as we wish. (Theobald, 1968, 44) In fact, the development of critical thinking is interweaving genetic and dialectic nature. This interweaving offers the power for critical thinking to deal with the consistent and contingent situations. That is, synthesis enriches human insight, and deepens human understanding, so that it can provide the confidence of enlightenment for individual autonomy.

A critical thinker is expected to be able to make his own decision about his purpose, and to take rational action, after reflecting upon the circumstances he faces. This implies that freedom of thought is a necessary condition for an autonomous person and for a critical thinker. (The relationship between

freedom, autonomy and emancipation will be discussed later on.) Thus, the capacity of autonomy must be developed, and its power must be strengthened for a critical thinker. This idea is grounded in Kant's theory, where freedom is emphasised. For Kant, "the ground of possibility of categorical imperatives is this: that they are based simply on the freedom of the power of choice, not on any other characteristic of choice (by which it can be subjected to a purpose)" (Kant, in Gowans, (ed.), 1987, 38). That is, for Kant, inner will is the basis of morality, while for critical thinkers, inner freedom opens the possibility for autonomy.

Then, a critical thinker will be expected to be able to deal not only with universal situations through established principles and a set of skills of problem-solving; but also with contingencies, which emerge from different contexts, when previous principles cannot be employed effectively. In this sense, what a critical thinker needs is not only the expert knowledge, but also the 'wisdom' to detect the problem, to focus his intentionality, to set up his purpose and choose suitable methods etc.

Critical thinking is a complex concept. Thus, a number of notions regarding its noesis will be grasped in order to manifest its commonality.

Then, its nature involving the characteristics of skepticism, reflection, emancipation, reconstruction and autonomy can be reexamined, so as to give critical thinking a proper definition.

II. Its commonality: revealing through manifesting its inner logic

A. Pivoting its common motive on autonomy

Etymologically, autonomy is rooted in Greek words: self and rule or law. Thus, it means literally self-rule. Berlin and Lindley interpret the nature of autonomy clearly. They explain,

I wish my life and decision to depend on myself, not on external forces of whatever kind... I wish to be a subject, not an object... a doer - deciding, not being decided for, self-directed not acted on by external nature or by other men as if I were a thing, or an animal, or a slave incapable of playing a human role... I wish, above all, to be conscious of myself as a thinking, willing, active being, bearing responsibility for my choices and able to explain them by references to my own ideas and purpose. (Berlin, 1969², 131; also quoted by Lindley, 1986, 6)

From the above interpretations, two main dimensions of autonomy can be brought out: one, the role of self; and the possession of freedom. (These two dimensions will be analysed in chapter V.)

The pursuit of autonomy is a common motive for critical thinkers, and the intention to be autonomous becomes stronger and stronger mode by mode. The intentionality of autonomy was revealed from the four modes of critical thinking, i.e. focusing on the supernatural, transcendent world (mode I); on the natural world (mode I); on the transcendental world of self-consciousness (mode III); and on the whole lifeworld (mode IV).

As analysed, in the supernatural mode of critical thinking, men admitted that they could not be independent of God or Heaven. Within the limitations on human knowledge, men took the principle of God or Heaven as the only consistent principle. On the other hand, at that time, human activities were thought so contingent that a consistent principle was impossible to establish. Under such an acknowledgment, all men could do towards autonomy was to decode and grasp the principle of God or Heaven.

Men with the empirical mode of critical thinking tried to grasp knowledge about the world and work out the law of the world, instead of decoding God's principle. The intention of autonomy became stronger within the empirical mode than within the supernatural mode in the motivation of establishing the law of the natural world. In this way, men could control their lives via the principles they established, then they were expected to escape from the control of God.

However, whether men within the empirical mode of critical thinking can really escape from the control of God or Heaven is questionable. As Peter Winch reminds us "from the present point of view technological independence is yet another form of dependence. Technology destroys some dependencies but always creates new ones, which may be fiercer - because harder to understand - than the old" (Winch, 1972, 39). That is, critical thinkers within the empirical mode had not become independent yet, although they did demand more autonomy in certain ways than did the critical thinkers within the supernatural mode.

Critical thinkers within the subject-dialectical mode gained some sense of autonomous life. "We rightly stand on the shoulders of our forebears"

(McLean, 1986, 8), so that we might learn that man is not merely part of the world, but also a whole which is relative to the world. In acknowledging this, the consciousness of autonomy is shown to be stronger than in the empirical mode. Peter Winch suggests that "what a man says or does may make a difference not merely to the performance of the activity upon which he is at present engaged, but to his life and to the lives of other people" (Winch, 1972, 41). Although Peter Winch does not focus on the changes of human intentionality, his suggestion confirms that critical thinking must focus not only on the world, but also on the individual himself and social life. This is the very intentionality of the subject-dialectical mode and the communicative mode of critical thinking. Meanwhile, the consciousness of autonomy, in terms of self-reflection shows its significance, in that the sense of individual life is stressed.

Winch's reflecting upon the sense of life also describes the task of critical thinkers within the communicative mode. The task is to deal with the problem of lifeworld, which includes the lifeworlds of subject, the object and the inter-subjective. Critical thinkers within the communicative mode made an achievement in categorising multifarious life through reflection upon the dysfunction and insufficiency of rationality. As analysed, they

found that universality cannot include all dimensions of life. Finally they replaced absolute rationality by quasi-universality, in which the contingencies of human life were noticeable.

Peter Winch tries to account for the meaning of contingencies by introducing Wittgenstein's philosophical use of language games. He says,

what we may learn by studying other cultures are not merely possibilities of different ways of doing things, other techniques. More importantly, we may learn different possibilities of making sense of human life [this reveals human intentionality], different ideas about the possible importance that the carrying out of certain activities may take on for a man, trying to contemplate the sense of his life as a whole. (Winch, 1972, 41)

With such enlightenment of reason, human beings are free from subjection to contingencies, through emancipating themselves from the yoke of a unique law, i.e. universality. Not only the commonality and diversity of individuals, but also the efficiency and possibility of universality are considered, when critical thinkers deal with human problems on the basis of quasi-universality. Man is then open to the possibility of making multifarious interests, activities in both individual and social lives.

More significantly, the shift of the purposes of critical thinkers from universality to quasi-universality implies that a critical thinker must not only recognise where the authority is, but also be brave enough to face the risk of emancipating himself from authority. It is the mark of fortitude that critical thinkers inquire bravely about authority, and reflect continuously upon it. In this sense, as I have emphasised, for a critical thinker, not only knowledge and abilities of critical thinking, but also wisdom, will and courage are needed.

Sufficient knowledge and abilities are fundamental capacities for dealing critically with problems, while will and courage are especially needed for men to face authority and to emancipate themselves from it. Further, while knowledge, abilities, will and courage are required in dealing with consistencies, wisdom is important and necessary in coping with contingencies. Dealing with consistency can follow existing principles, whereas contingency must be dealt with by creating new principles for a new circumstance. From the process of critical thinkers' dealing with contingency, the relationship between the achievement of critical thinking and the abilities, dispositions of critical thinkers can briefly be inferred.

That is, the more expert the knowledge and abilities of critical thinking, the stronger the will and courage needed for critical thinkers to emancipate themselves from authority; and the more comprehensive wisdom a critical thinker possesses, the more possibility he has to be autonomous for reconstructing his own life.

B. Interweaving genetic with dialectical developments

Critical thinking is not a static but a dynamic development. It is a system of transformation that becomes progressively rational. Critical thinking reveals the nature of integrating genetic into dialectical development from its transformation of modes of thinking. The term 'genetic' is borrowed from Piaget. According to Piaget, "genetic epistemology attempts to explain knowledge on the basis of its history and especially by the psychological origins of the notions and operations upon which it is based" (Piaget, in Modgil (eds.), 1982, 27). With regard to the genetic development of critical thinking, the changes of its modes are never sudden but always gradual. The changes lie in the process of becoming itself from one mode to another. Perhaps, this development can vary from one society to another, but there is a constant order of succession. In this sense, with

the increase of knowledge, critical thinking is a genetic development in terms of autonomy: from the supernatural mode to the empirical mode; from the empirical mode to the subject-dialectical mode, then to the communicative mode.

However, critical thinking is not a pure genetic development. The fact that life is not only consistent, but also contingent led critical thinking to a dialectical development. Contingency can hardly be dealt with merely through existing principles, which are universal, because contingency is relative to a specific context. Dialectics, as conceived by critical thinkers both in mode III and mode IV, is not reduced to its simple form of thesis, antithesis and synthesis; nor is it equivalent to just the rule of cognitive activity. It is a process towards autonomy which implies conscious reflection from the instrumental level to the spiritual level; from one dimension to multiple dimensions. In this sense, dialectic implies the potential of creativity. In addition, the dialectical process enriches the contents of autonomy, and strengthens the eagerness for autonomy.

The most obvious modes which manifest the dialectical development of critical thinking are its subject-dialectical mode and communicative mode.

The subject-dialectical mode of critical thinking can be viewed as the outcome of the supernatural mode and the empirical mode of critical thinking. Critical thinkers within the supernatural mode considered merely the supernatural world, while in the empirical mode they tried to reject the belief in supernatural power. A dialectical movement is shown in the relationship of 'thesis' and 'antithesis'. Synthesis is crystallised through the integration of thesis and antithesis. In this way, critical thinkers within the subject-dialectical mode assumed that universality must be established neither on the basis of the belief in supernatural power, nor on the basis of external world. It must emerge from self-consciousness, and self-consciousness shows its inner movement to connect the object world and the subject world.

Dialectical method and spirit also contribute to human autonomy. As analysed, with regard to the intentionality and purpose of critical thinkers, if the supernatural mode of critical thinking is aimed at formulating the principle of God or Heaven, then the empirical mode of critical thinking would be intended to rebel against the principle of God or Heaven. Critical thinkers in the empirical mode, instead, created the law for themselves through understanding the natural world. In this sense, establishing the law

of the natural world, rather than following the principle of God or Heaven, critical thinkers within the empirical mode manifest their intention to control the world. Intending to control the world, e.g., critical thinkers in the empirical mode, does not necessarily mean to throw away the principle of universality. Yet, trying to be the master of oneself is revealed.

Similarly, the communicative mode of critical thinking is the synthesis of the empirical mode and the subject-dialectical mode of critical thinking via dialectical spirit and method. The communicative mode of critical thinking emerged from reflecting upon the natural world and the transcendental world of self-consciousness. The empirical mode of critical thinking focused on the natural world, whereas the subject-dialectical mode of critical thinking focused on the transcendental world of self-consciousness. In Habermas' theory of communicative action, the communicative mode of critical thinking leads to integrate the natural world with self-consciousness (Habermas; McCarthy (trans.), 1984; 1987). According to Habermas, the theory of communicative action is established by synthesis from the investigation of social pathology and perspective, such as phenomenology, hermeneutics and symbolic interactionism (Habermas; McCarthy (trans.), 1984, xi; 1987, 77). In other words, he tries to connect the lifeworld and

system paradigms through autonomous action (Habermas; McCarthy (trans.), 1984, xi). In addition, a dialectical process is exercised by a rational person, who is able to put forward an assertion, criticise or justify the given situation in terms of grounds and evidence, legitimations and even intentions, and then provide reasons for his or her expressions or arguments (Habermas; McCarthy (trans.), 1984, 15-8). Hence, the development of critical thinking in integrating the object with the subject, and integrating the subject with the subject are as a dialectical movement of synthesising the empirical mode and the subject-dialectical mode. If the empirical mode is taken as the 'thesis', then the subject-dialectical mode is the 'anti-thesis'. In other words, it is a change from the objective external-world to the subjective inner-world.

From the above discussions, both the subject-dialectical mode and the communicative mode manifest the nature of the dialectical movement of thinking, in terms of subjectivity and becoming. According to Hegel, Being or truth exists neither in the supernatural world nor in the natural world, but in the inner spirit of the subject, called *Nous* (Hegel; Miller (trans.), 1977, 34, 190). *Nous* is the crucial symbol of the subject-dialectical mode of critical thinking. For Hegel, *Nous* (spirit),

being visible and invisible, is indicated only in its process of coming to be (Hegel; Miller, (trans.), 1977, 480). Thus, becoming is the nature of dialectic.

The communicative mode is inclusive of the previous three modes of critical thinking. It deals not only with the natural world and the subject-dialectical world, but also with the supernatural world. It is concerned not only with generality (consistency) but also diversity (contingency). Its synthetic outcomes are shown in the intentionality (lifeworlds) and purpose (establishing quasi-universality instead of any universality). In this sense, the communicative mode of critical thinking can be taken as the fully developed mode of critical thinking in this thesis.

C. Enriching cognitive style from one dimensionality to multi-dimensionality

Cognitive style, here, is a pattern of thinking, which is used to categorise, recognise, and constitute knowledge. It lodges in the schema of mind, but governs thinking activity by locating human intentionality and purpose. The relationship between cognitive style and human activity bears a certain

resemblance to the relationship between the subject and the object. Knowledge of the world is then possible, because cognitive style of mind categorises the structure of our experiences, then integrates new experiences with the existing ones.

The role of cognitive style for knowledge corresponds to Kant's theory about transcendental self and knowledge. Kant puts the relationship between transcendental self and knowledge as that "our knowledge must conform to objects" (Kant; Smith (trans.), 1968⁹, 75). Likewise it is the function of cognitive style in human consciousness to know the world, the function of cognitive style has the task of completing the movement of critical thinking from skepticism and reflection to emancipation and reconstruction.

In this way, cognitive style takes charge of knowledge by continuously inquiring and reflecting upon previous knowledge. The contribution of continuous reflection upon knowledge stretches the realm of cognition from one dimensionality to multiple dimensionality. For example, we, at the very first, learn the basic skills of dancing, then improve the skills through reflecting upon learned skills. After delicate skills are acquired,

we can go a step further to consolidate isolated actions or skills to achieve harmonious expression of art. The step of expression cannot be merely mono-dimensional but multi-dimensional. Further, only a person who can think in multiple dimensionalities can be a connoisseur in a specific field. In this sense, the critical thinker can be viewed as a connoisseur.

Cognitive style constitutes the immanent framework of human action. On the other hand, cognitive style is influenced not only by inherited qualities, e.g., intelligence and disposition, but also by cultural contexts and learning abilities. Berry stresses the effect of the cultural context on cognitive style so that

specific cognitive competencies are related to local cultural conditions (as in the specific abilities), systematic relationships are sought (the pattern of relationship being indicative of the style), and comparisons across cultures are employed to tease out systematic relationships between cultural context and cognitive styles. (Berry, 1984, 340)

The inherited quality is always hard to change. So, I prefer to locate my account within the cultural context, in order to map out the inner logic of critical thinking in varied cognitive styles.

The cognitive style of the supernatural mode of critical thinking is *imaginative-reason*. Here the term '*reason*' is "tied up with the physical doings such as going, working...on the one hand, and the mental doings such as thinking, believing, speculating and inferring on the other" (Theobald, 1977², 67). Imaginativeness is viewed as "an essential characteristic of human thought" (Hilpinen, (ed.), 1980, 162). De Bono clearly points out that there are three kinds of situations from which imagination emerges (De Bono, 1971², 22). They are: a) not enough information is given; b) no way of checking whether an idea is right or wrong; and c) not so much a matter of checking ideas but of thinking them up first (De Bono, 1971², 22). On the one hand, imagination arises from limitations on human knowledge, e.g., when we are faced with a vague situation; on the other hand, the scope of our imagination is dependent on the extent of our knowledge. As Hilipnen claims, "human imagination can augment or diminish anything; it can transpose or combine things; it can modify or transform them; project them into completely different environments; join disparate parts or decompose integral units" (Hilpinen, (ed.), 1980, 161).

Imagination used by critical thinkers is as a kind of reason for delivering a rational answer. The more knowledge one possesses, the more profound quality of imagination one exercises. The original explanatory hypothesis is partly postulated by imagination-reason, whilst the problematic hypothesis can be developed into another postulation, if it can be justified. For example, in ancient Chinese society, that *Yin* is the representative of the female, while *Yang* is the male, and that the universe is constituted by *Yin* and *Yang*, is an imaginative hypothesis. Similarly, that the earth is believed to be at the centre of the universe in western thought is an imaginative hypothesis as well. In this sense, "it is difficult to separate explanation and description" (Theobald, 1977², 40) at that moment. The job of the supernatural mode of critical thinking is to locate the transcendental hypothesis and formulate the problematic hypothesis into an acceptable postulation. Hilpinen confirms the function of imaginative-reason when he says that "it is not possible to draw a strict dividing line between accurate thinking and imagination. It plays the main role in science as well as in the arts" (Hilpinen (ed.), 1980, 157). That is, imagination may be an accurate thinking either in science or in the arts, if it is kindled with reason. This is the reason why critical thinkers could employ their imagination with reason to make out an acceptable answer

even via ritual terms. In the process from locating a hypothesis to formulating an acceptable answer, the supernatural mode of critical thinking made a step forward in working out the theorem of the universe, for example.

Critical thinkers within the empirical mode took the progress of human development one more step forwards than critical thinkers within the supernatural mode. Critical thinkers with advanced and well-founded knowledge developed their cognitive style by adding *experiential-empiricism* to imaginative-reason. They were led to ask how to identify human substantial beliefs (hypotheses) about the nature of things (Poteat, 1985, 11). Verifying the hypothesis with evidence became a task of the empirical mode of critical thinking, and objective knowledge was established through empirical verification.

Another cognitive style, i.e. dialectical-synthesis, gave rise to skepticism, as men suffered from the demand of objectivity, and from ignoring subjectivity. In other words, critical thinking emerges from a conflict situation, which changes the world. During the process of dealing with the conflict, critical thinking reveals its characteristics of skepticism and

reflection. Moreover, a critical thinker must never abandon skepticism and reflection, if he is to stretch the range of knowledge.

Identifying oneself with one's own self indicates individual autonomy. As Feuerbach said, "I taught Hegelian philosophy...at first as a man who identifies himself with his subject" (Löwith, 1964, 74). This is the crucial style of cognition to which critical thinkers within the subject-dialectical mode submit themselves. Nevertheless, whether "consciousness is nothing more than a type of neutral occurrence" (Hilpinen, (ed.), 1980, 159), and whether universality can be established via self-consciousness are arguable.

By noting the arbitrariness of self-consciousness, critical thinkers within the communicative mode focus their task on quasi-universality, rather than universality. Also, in shedding light on the closed purpose of universality, critical thinkers within the communicative mode, overlooked intentionally the possibilities of transcendence beyond consistency and contingency: consistency, the criterion for generality; contingency, the criterion for individuality.

In demanding dialectical synthesis from consistency and contingency,

Habermas' theory of communicative action is entailed in that the dimensions of critical thinking embrace not only objective and subjective knowledge, but also intersubjective knowledge, which is concerned with culture, society and person. As Habermas claimed, "communicative action relies on a cooperative process of interpretation in which participants relate simultaneously to something in the objective, the social, and the subjective worlds" (Habermas, McCathy (trans.), 1987, 120). Further, he pointed out that "corresponding to these processes of cultural reproduction, social integration, and socialisation are the structural components of the lifeworld: culture, society, and person" (Habermas, McCathy (trans.), 1987, 138). More importantly, the notion of consensus in Habermas' theory of communicative action reaches epistemologically the goal of freeing the yoke from universality (Habermas, Shapire (trans.), 1971, 35; McCathy (trans.), 1975, 3; 1984, xi, 296-7; 1987, 377).

The communicative mode of critical thinking transcends universal consistency and uncertain contingencies by connecting Piaget's theory of equilibrium (Piaget, Rosin (trans.), 1972) with Habermas' theory of communicative action (Habermas, McCathy (trans.), 1984, 68). As Modgil claims, "his theory of equilibration naturally led Piaget to a dialectical

concept of development" (Modgil (ed.), 1982, 415). According to Piaget, equilibrium is defined by reversibility (Piaget, Rosin (trans.), 1972, 60). The reversibility is the most apparent characteristic of the act of intelligence which is capable of detours and returns (Piaget, Rosin (trans.), 1972, 61).

Meanwhile, the aspects of culture, society and person are involved in human life via communicative action. According to Habermas, communicative action is used in order to connect the system with lifeworld, and its functions are involved in the relationship among culture, society and person. Habermas says,

I use the term culture for the stock of knowledge from which participants in communication supply themselves with interpretations as they come to an understanding about something in the world....; I use the term society for the legitimate orders through which participants regulate their memberships in social groups and thereby secure solidarity...; and by personality I understand the competences that make a subject capable of speaking and acting, that put him in a position to take part in processes of reaching understanding and thereby to assert his own identity. (Habermas, McCathy (trans.), 1987, 138)

From the above explanations, the scope of human insights has been enriched from one dimensionality to multiple dimensionality. This achievement is shown in the cognitive style of categorical-construction within the communicative mode of critical thinking. Critical thinkers with the cognitive style of categorical-construction question the possibility of universality; reflect upon the insufficiency of universality; emancipate their one-way intentionality from the domination of universality; and then reconstruct a new rationality for their lives. In this sense, the communicative mode of critical thinking strengthens human autonomy and stretches human insights to the multi-sided aspect, including culture, society and person.

D. Emancipating men from alienation

The communicative mode of critical thinking also marks human achievement by emancipating men from the authority of universality, which is one problem which causes human alienation (Marx, 1976; Lukes, 1985). In this sense, a progression is indicated on the range of rationality by virtue of emancipating men from alienation.

Autonomy can be stifled by alienation. Lukes confirms Marx's idea and claims that "alienation captures the central obstacles to real freedom...and the worker only feels himself outside his work and in his work feels outside himself" (Lukes, 1985, 81). Lukes analyzes two types of alienation. They are: "in the first case, alienation captures phenomenologically the life-world of the alienated, his world from within; in the second, it captures that world, and his experience of it, from the external perspective of a counterfactual world which his very alienation prevents from becoming factual" (Lukes, 1985, 81-2).

Lindley claims that alienation cannot be compatible with autonomy (Lindley, 1986, 167). According to Lindley, alienation arises from negative self-ideology, in which there is "a process accomplished by so called false consciousness" (Lindley, 1986, 166). He takes Marx's criticism of capitalism as an example to point out man's suffering from false-consciousness, in that

the slave and the worker each have a false belief about history, a dubious normative belief, and a disputable belief about the future... (And) it is an

obstacle to their pursuit of their own real interests, and is incompatible with their autonomy. (Lindley, 1986, 167)

Enlightenment of reason is then the very task of critical thinking. "The enlightenment has always been aimed at liberating men from fear and establishing their sovereignty" (Horkheimer and Adorno; Cumming (trans.), 1973, 3). Therefore, the best way to wake men from false consciousness is to thrust into the deep structure of their false consciousness. In this way, one emancipates oneself from negative ideology, especially one's own ideology. In addition, "the program of the enlightenment was the disenchantment of the world; the dissolution of myths and the substitute of knowledge for fancy" (Horkheimer and Adorno; Cumming (trans.), 1973, 3).

Freedom must be the bedrock of enlightenment: without freedom, enlightenment will be severely constrained, and without enlightenment, autonomy will not be authentic. According to Kant, freedom is taken as an ability to resist being determined, so that it is possible for a free subject to fulfil his moral autonomy. He argues that "freedom is not independence on law which we can consciously follow, but independence on the physical

relation of causality, not being determined by physical or sensible causes" (Kant; Abbott (trans.), 1967¹¹, Iix). Further, Kant regards "freedom as an ability from which proceeds contradiction to the moral law"(Kant; Abbott (trans.), 1967¹¹, Iix). On a par with Kant, and more than Kant, Hegel applies freedom not only to thought but also to human life itself. He emphasises that "freedom in thought has only pure thought as its truth, a truth lacking the fullness of life. Hence, freedom in thought, too, is only the notion of freedom, not the living of freedom itself" (Hegel; Miller, (trans.), 1977, 122). Similarly to Hegel, Peterson claims that "the mind requires freedom necessary for transcendent thought" (Peterson, 1977, 23).

Furthermore, Bre'hier recapitulates these implications, and states that

freedom is the power to dispose of our thoughts, to confer on them an order that is not of natural necessity... The search itself is an act of freedom that confirms freedom... Our freedom is a creation of ourselves; to be free is to do, not to become, but to do and in doing, produce ourselves. (Bre'hier; Baskin (trans.), 1969, 60-1)

Therefore, critical thinking must not be separated from freedom, in which autonomous life is grounded.

In shedding light on the necessity of freedom for autonomy, a critical thinker must be keen on enlightenment of reason by emancipating himself and men from authority. As Horkheimer and Adorno pointed out,

the enlightenment recognised the old powers in the Platonic and Aristotelian aspects of metaphysics, and opposed as superstition the claim that truth is predicable of universals. Enlightenment has always taken the basic principle of myth to be anthropomorphism, the projection onto nature of the subjective. (Horkheimer and Adorno; Cumming (trans.), 1973, 6)

In other words, the goal of emancipation in terms of self-consciousness is enlightenment of reason, and the task of enlightenment of reason is aimed at autonomy. An autonomous person must be free himself from inner and external authorities which hamper individual or social development. Taylor confirms Hegel's theory of spirit which relocates self-reflection in inner self-understanding. He claims that "spirit comes to understand itself, and at the same time the life-process itself will be entirely transparent as an embodiment of this purpose (self-understanding)" (Taylor, 1986², 87). More subtle than Taylor, Kant understands reason in its endeavour to transcend dialectically beyond a priori knowledge via understanding (Kant;

Smith (trans.), 1968⁹, 177).

According to Dworkin's analysis of the nature of autonomy, an autonomous person is capable of not only self-reflection, but also self-emancipation, so that one is not constrained to narrow one's reason (Dworkin, 1988, 6-11; 17-23; 26-39; 108). An autonomous person is then a person who is capable of self-realisation, self-reflection and self-actualisation. Autonomy, which can be acquired by emancipation from alienation, is taken as the motive of critical thinking. In a word, the relationship between autonomy, freedom and emancipation is not independent but reciprocal.

E. Establishing rationality as its inner logic

Siegel and Barrow are quite right in holding the view that to be concerned with critical thinking is to be concerned with the questions of rationality (Siegel, 1988; Barrow, 1984). Barrow claims that "critical thinking itself is a catch-all phrase... To be concerned with critical thinking is to be concerned with the question of rationality" (Barrow, 1984, 7). Siegel, although rejecting the use of the term 'critical thinking', claims that

"critical thinking is principles of thinking" (Siegel, 1988, 34), besides, he points out two principles: "subject-specific" and "subject-neutral". He says,

subject-specific principles which govern the assessment of particular sorts of reasons in particular contexts; subject-neutral problems include all those principles typically regarded as logical, both informal and formal. Besides, subject-neutral problems apply across a wide variety of contexts and types of reason. (Siegel, 1988, 34)

Siegel's use of the term 'principle' is different from for Barrow's or Ennis'. In fact, what Siegel calls 'principles' of thinking is equivalent to what he calls 'rationality', whereas Barrow and Ennis take the term 'principle' as a general law which is transferable. Barrow claims that

one may say that it is highly likely that one who has had a critical and rigorous turn of mind developed in one context will display it in other contexts that he regards as serious, in so far as he can... He would only be able to display rigour and critical acumen if he could handle the content (and if he choose to do so). (Barrow, 1984, 85)

Further, he criticises the empirical research and points out that

the empirical researchers will not be able to observe situations that involve a combination of dispositions, skill and competence. The notion that has been discredited by such research, namely that overall competence was transferable was always absurd. (Barrow, 1984, 86)

Therefore, for Barrow, a general principle of critical thinking must be a integration of all abilities of thinking, i.e. skill, disposition and competences, so that it is inclusive enough to be transferable. Similarly, Ennis is convinced that "there are general principles that bridge subjects, that have application to many subjects" (Ennis, 1985, 29).

Here, I am not intending to be involved in the debate over whether critical thinking is a transferable skill. Rather, I would like to claim that rationality, which might either embody principles or be constituted by principles, acts as the inner logic for critical thinking. Without grasping adequately the nature of rationality, we cannot successfully deal with the question of critical thinking. Siegel suggests that "the theory of critical thinking must be deepened by a philosophical theory of rationality, and theorists of critical thinking can best pursue their theoretical activity by

pursuing the theory of rationality" (Siegel, 1988, 127). Similarly, for Barrow, "good thinking (critical thinking) is the nature of rationality" (Barrow, 1988, 32).

There are various meanings for rationality. First, rationality means "the kind of thinking we would all want to do, if we were aware of our own best interests, in order to achieve our own good" (Baron, 1988, 3). Rationality in Baron's definition is a kind of *instrumental*, or *purposive reason*. Baron understands rationality in terms of *means-ends*. That is, rationality is a kind of reason relying extensively on its technical nature, and widely used by Capitalism, in which society, based on the economic interest, operates for the material achievements in terms of efficiency. Black also analyzes the reasonable action in terms of calculated purpose. He asserts that "it is reasonable to A rather than B, because it is more likely to achieve what you want" (Black, 1952², 203). It seems to me that the meaning and range of purposes on this conception, is given by human 'desires'. Human activity, guided by purpose, as analysed, is a product of human insight. In this sense, desire can be taken as one factor or constituent of human insight. Therefore, Black's theory, as Baron's, is criticised as being too close to teleology, which Horkheimer grades as a

kind of instrumental reason, while Habermas calls it *technical reason*. According to the communicative mode of critical thinking, instrumental reason is merely one aspect of human rationality.

Following Habermas, Tran categorises rationality into three types. There are: *Reason, Rationality, Reasonableness* . He explains these types as that "(If) reason is the principle of our ultimate concern, (if) rationality is the instrumental, purposive principle in the natural science, (then) reasonableness can serve to be the principle of human practical life such as morality, laws, arts etc" (Tran, 1989, 1). According to Tran, rationality is different when it is rooted in a different lifeworld. Rationality in the transcendental world is called reason; it is called rationality in the natural world, while it is called reasonableness in the social world. He points out,

Reason, by virtue of its expressive power of the human world, may reveal itself in its multi-dimensional form, depending on which kind of relation, and on which subject it deals with. That means, rationality, if it is isolated or separated from lifeworlds, will be a mere tool, and deprived of the meaning of life. (Tran, 1989, 36)

Tran's theory confirms the realisation achieved by the communicative

mode of critical thinking, that various dimensions of rationality are identical to various modes of critical thinking.

Siegel takes rationality to be coextensive with critical thinking. He is not quite satisfied with McPeck's viewpoint on the relationship between rationality and critical thinking. He compares his own idea to McPeck's, and points out that McPeck takes rationality as a universal dimension to include all instances of the intelligent use of evidence in the solution of problems, while he himself limits critical thinking to only some of those instances (Siegel, 1988, 29). Siegel insists that "critical thinking is coextensive with rationality, not merely a dimension of it, for rationality and critical thinking are both coextensive with the relevance of reasons" (Siegel, 1988, 30).

The relationship between critical thinking, rationality and reason is not clear in Siegel's claims. For Siegel, whether critical thinking is limited to the technical level needs to be clarified. The thesis that rationality and critical thinking are coextensive gives rise to a number of questions, such as: is critical thinking a sort of rationality? Can rationality be reached through critical thinking? Do critical thinking and rationality deal with

different fields of knowledge? How is rationality established and what is critical thinking for? Does rationality mean 'good reasons'? Is working out 'good reason' the unique task or achievement of critical thinking? and so on. These questions are avoided if rationality is not merely coextensive with critical thinking, but an inner logic of critical thinking. Rationality locates human insight, while human insight marks the target of critical thinking.

III. Reinterpreting for its characteristics

Here, in order to reveal concretely the characteristics of critical thinking - skepticism, reflection, emancipation and reconstruction, I shall take R. M. Hare's distinction between intuitive thinking and critical thinking (Hare, 1981) as a target to justify the necessity of these four characteristics for critical thinking, before the definition of critical thinking is given.

Hare distinguishes intuitive thinking from critical thinking in following ways:

- a) critical thinking is necessary to resolve the conflict, while for intuitive thinking, the conflict is irresolvable (Hare, in Gowans (ed.), 1987, 206);

- b) critical thinking consists in making a choice within certain constraints (Hare, in Gowans (ed.), 1987, 218);
- c) critical principles have to be compatible with specificity (Hare, in Gowans (ed.), 1987, 218-9);
- d) critical thinking results in a universal principle, which used in critical thinking can be of unlimited specificity. (for Hare, a universal principle is similar to quasi-universal consensus in terms of Habermas (Habermas; Shapire (trans.), 1971; McCarthy (trans.), 1984; 1987).) (Hare, in Gowans (ed.), 1987, 221, 227);
- e) critical thinking is epistemologically prior, while intuitive thinking cannot be self-supporting (Hare, in Gowans (ed.), 1987, 222); and
- f) critical thinking aims to select the best set of *prima facie* principles for use in intuitive thinking (Hare, in Gowans (ed.), 1987, 225, 227).

Hare's concept of critical thinking is aimed specifically at dealing with moral conflicts and justifying moral principles; he is not concerned with clarifying the nature of critical thinking in general. Nevertheless, his own discussion provides examples which can be used to illustrate the characteristics of critical thinking.

In brief, according to Hare's theory, "critical thinking considers conflict-situations and frames a universal principle, which is established on philosophical logic, and thus, based on linguistic intuitions only" (Hare, in Gowans (ed.), 1987, 205). However, "when they [principles] are in conflict, critical thinkers can put the principles aside for the time being and examine carefully the particular case to see what the situation is" (Hare, in Gowans (ed.), 1987, 227). In this sense, critical thinking also plays the role of solving conflicts, in which everything would be done by reason so that solving conflicts can be possible through understanding different and specific circumstances.

Thus, even in a moral dilemma in which principles conflict, there will only be scope for critical thinking if the thinker recognises that the absolute status of the principles can be questioned. If two conflicting principles are simply taken as unchallengeable, this will appear as a situation of tragedy, in which critical thinking can offer us no resolution. As R. B. Marcus suggests, "moral dilemmas, on their face, seem to reflect some kind of inconsistency in the principles from which they derive" (Marcus, in Gowans (ed.), 1987, 189). Yet, I do not mean that critical thinking is aimed at solving moral or practical dilemmas. Rather, solving moral or

practical dilemmas might be viewed as the medium to reach a good life, through employing its characteristics.

First, skepticism is the starting point of critical thinking. Yet, one is not a critical thinker, if one's thinking is confined to skepticism. De Bono emphasises that skepticism is not critical thinking but a signal for thinkers, as a lighthouse for boats in the sea (De Bono, 1971). In his work, *The Mechanism of Mind*, De Bono differentiates vertical thinking from lateral thinking to emphasise that the task of skepticism for thinking is to generate a direction of thinking and life (De Bono, 1971). He claims that "with vertical thinking one moves only if there is a direction in which to move. With lateral thinking one moves in order to generate a direction"(De Bono, 1971, 238). For critical thinkers, skepticism should not be their end of journey of reflection, but a continuous task. As Hare claimed, "only when he has done it can he be sure that he was right" (Hare, in Gowans (ed.), 1987, 226).

The seeds of skepticism are to be found in Plato's *Republic*, where knowledge and opinion are distinguished. Peterson claims that "knowledge arises from *inquiry*" (Peterson, 1977, 31). Inquiry is the action which

follows from skepticism, while the function of distinguishing locates the dimension of inquiry. In their skepticism about scientific discovery, Popper and Kuhn emphasise that knowledge is developed by falsification (Popper) or by revolution (Kuhn). By skepticism, the mind is triggered to aim at knowledge, which leads the outcome of falsification and revolution. Therefore, skepticism cannot guarantee knowledge, but it may guide men to reflect upon previous knowledge, in which negative ideology or false consciousness may be involved.

Skepticism must not be taken as an end but a medium. Skepticism emerges from one's belief in that there are no absolute criteria for problematising a whole life (Habermas; McCarthy (trans.), 1984, 73). In addition, "usually we are forced to this [the possibility of critique] only when we are under the pressure of a problem situation in which background-knowledge breaks down. Such situation is a fertile place for critique to start" (Young, 1989, 28). However, we cannot demonstrate skepticism for the sake of rebellion, but for reconstructing the rationality of truth, good and beauty. In a word, skepticism must be grounded in reason. For the sake of good life, we question any irrationality and authority around us, which will hamper personal and/or social development, then emancipating men from negative

ideology or authority could be possible. That is the very reason why Lindley appreciates K. B. Miller's insistence on the importance of critical, rational inquiry (Lindley, 1986, 70).

Second, reflection opens the possibility for reasonable decision-making. Reflection improves understanding about the circumstances, and "if we have this understanding, the difficulties disappear" (Hare, in Gowans (ed.), 1987, 208). De Bono claims the power of understanding for critical thinking. He says,

understanding is a very powerful process because it is the means by which man multiplies his knowledge. He can only learn response to a few special situations but through understanding he converts any number of new situations into already familiar situations and thus knows what to do about them at once. (De Bono, 1971, 19)

Let me take Hare's example (Hare, in Gowans (ed.), 1987, 210) to manifest the necessity of reflection in confronting a dilemma. His example is: suppose that I get into a situation in which I must decide whether I ought, in the circumstances, to tell a lie or not, where not telling a lie will involve hurting my parents or friends. Two principles - that I should not tell a lie,

that I must not hurt my parents or friends - are in conflict. This is the situation whatever you do, you will break either the former or the latter principle. Under such a situation, one must overcome self-contradiction. Not only these principles but also their circumstances must be examined and judged, so as to select the best choice. In this case, critical thinking plays a role of reflection in understanding what the principles and situations are, and how far each of them is suitable for resolving self-contradiction. That is, critical thinking guarantees that thinking is guided by reason. Meanwhile, principles and circumstances are examined carefully before a decision is taken.

Finally, emancipation serves the function of overcoming self-contradiction, whilst reconstruction establishes or invents new acceptable principles. Taking Hare's example again explains the emancipatory and reconstructive characteristics of critical thinking. Hare says that "in playing games, when we are faced with a conflict of rules we abandon the game or invent new playable rules" (Hare, in Gowans (ed.), 1987, 196). However, it is hard to abandon our action and, perhaps, there is no justification for truth. In such a case, as Hare suggests, "we proceed with choices as best we can" (Hare, in Gowans (ed.), 1987, 196). In this example, abandoning the game or our

action is a sort of emancipation, while inventing new playable rules or choosing as best as we can is a job of reconstruction.

Both emancipation and reconstruction must be undertaken by autonomous men within a situation in which there is no coercion. As Habermas claims, a consensus can only result from communicative action in an ideal speech situation (Habermas; McCarthy (trans.), 1984). Here, an ideal speech situation implies an uncoerced situation. In other words, consensus must be reached by autonomous persons within circumstances of freedom. Choosing as best as we 'can' implies that we are our own masters in making decision. Emancipation is connected with reconstruction by consensus, in which communicative action is engaged in through debate. While the debate, to produce uncoerced consensus, must be rational, this does not mean that it has no use of rhetoric.

For Willard, the common rationale of the argumentation discipline, which is concerned with argument, decision-making, rationality, critical thinking and debate, is a rhetoric of rationality which underwrites an explicit pedagogical path, and an implicit theory of knowledge (Willard, 1989, 4) Rhetoric can be viewed as a coherent package of skills and techniques,

while debate is the cornerstone of democracy (Willard, 1989, 4). "This rhetoric paints a comforting picture of rational decision makers confronting thesis with antithesis, claim versus claim, thus transcending the passivity and powerlessness to which they might otherwise be condemned" (Willard, 1989, 4). Therefore, when confronting conflicts; when making a decision; when rejecting unplayable rules; when transcending the social status quo and creating a new playable rule, emancipation and reconstruction are integrated together. It seems that knowledge can be acquired through varied paths, yet, it must be tested by argumentative 'give' and 'take' within an uncoerced circumstance of thought. Then, rationality can be reflected upon and reconstructed through the communicative action of reason, i.e argumentative give and take.

In this sense, critical thinking cannot be taken over by a computer by dint of its nature of autonomy. Critical thinking is exercised by autonomous people, therefore, it cannot be programmed into a computer. Its general principles could be carried out by a computer, however, a computer cannot deal with a specific situation. Computers are designed under a condition, in which it must follow an already established rule. Even though a computer can 'invent' a new rule to deal with contingencies, it cannot

'transcend' itself from its original condition, but defers to it. In this way, computers cannot be taken as autonomous 'actors'.

Further, an autonomous person is qualified not only by the ability of an agent, but also by his dispositions to acknowledge, to wish, to desire, to feel and so on. In this sense, a computer cannot act in accordance with individual dispositions. Perhaps, such an ideal computer could be invented, however, it will be arguable whether such a 'computer man' can also be still called a 'computer'.

More importantly, human life includes not only the relationship between the subject and the object, but also the relationship among subjects. In other words, human life must be involved in physical, moral and aesthetic aspects. However, all computers can do is merely the physical aspect. In this sense, the moral aspect and the aspect of consciousness of human life can hardly be replaced by a computer.

These three impossibilities for computerising critical thinking reveal the significance of autonomy for critical thinking. A person who can exercise the actions of skepticism, reflection, emancipation and reconstruction but

without autonomy, cannot be viewed as a critical thinker. He at best employs merely the skills of critical thinking, as a computer does, therefore, by no means can be an agent. In this sense, even though one takes critical actions, i.e. skepticism, reflection, emancipation and reconstruction, one is not doing critical 'thinking', but merely an instrumental act. In a word, one is merely taken as an object but not a subject. A critical thinker however must be an autonomous person.

In addition, there are another two tasks which cannot be replaced by a computer, but exercised by an autonomous person. There are: 'responsibility to self' and 'free will'. The concept of autonomy has been philosophically and psychologically analysed by scholars such as Cooper (1983), Lindley (1986), Dworking (1988), Meyers (1989) and White (1990). Here, I would like to manifest the significance of autonomy for critical thinking. As White claims, "autonomous persons need more than knowledge or understanding. They also have to have certain dispositions of character" (White, 1990, 23). This is also the part which a computer can hardly play. An autonomous person, in terms of critical thinking, does not entangle himself in self-contradictory belief and action systems. As Mayers suggests, "personal autonomy is a way of living in harmony with

one's true self" (Meyers, 1989, 20). In noting the significance of autonomy and harmony, it seems to me that 'responsibility to self' and 'free will' indicate the disposition of a critical thinker. In this sense, a critical thinker is a person who is capable of coping not only with rational life, but also with emotional life.

The function of critical thinking in the lives of reason and emotion will be discussed to reveal the significance of 'responsibility to self' and 'free will' for an autonomous person. Actually, this is a traditional argument between romantic and conservative philosophies. In general, tradition, imagination, feeling, and religion are regarded as natural and positive by romanticism, whereas conservatism conceives that man and society could be made better by following a universal law, by which the universe is governed (Zeitlin, 1981², 39).

As analysed in chapter III, critical thinkers within the subject-dialectical mode tried to bring the subject into epistemology. The subject in the subject-dialectical mode of critical thinking stands merely on the basis of reason, or rational thinking. In this sense, whether critical thinkers within the subject-dialectical mode had been successful in coming to grips with the

reality of the individual was in question. As Kierkegaard in his "Concept of Irony" indicates, irony was "the task of the age to translate the results of scientific knowledge into personal life to appropriate them personally" (Löwith, 1964, 147). This methodological shift from Hegelianism to Kierkegaard reflects the suspended argument of the relationship between mind, body and reality. From the viewpoint of critical thinkers in the communicative mode, reality is constituted by both mind and body. Therefore, the task of a critical thinker, as an autonomous person, lies in harmoniously integrating body and mind into the whole life.

Then, a practical question - how the task can be done - will be asked. In order to answer this question, the crucial function of reason must be clarified in advance. As Peterson claims,

reason is the embodiment of intellectual process; it is that process which determines the attitude of mind toward truth. Reason brings attitude into being. The reasoning mind is the mind in the process of evaluation; it is the evaluative process which structures attitude. (Peterson, 1977, 121-2)

It seems to me from the above quotations that Peterson is in step with

Kierkegaard in making reality real. On the other hand, the trip from truth or intellectual mind to reality-being appears not to be accounted. In other words, how a person 'leaps' from intellectual mind to reality-being is not informed. Thus, it is interesting to investigate how a critical thinker achieves this task.

Communicative action carries out this task during the due course of integrating harmoniously. (Communicative action in its broadest sense here.) During communicative action, one's free will is respected, so that the room for contingency and creation is protected. On the other hand, everyone is expected to take responsibility for rational argumentation, in which self-reflection and the individual postulation are rooted in individual reason. It is in this way that individual free will is bridged with rational responsibility.

Here, I do not take emotion to be equivalent to free will. However, in the sense of self-interest, they at the very least rooted in the same realm. The unconformity of free will and social legitimation may emerge from the conflict of interests between self and others, while emotion may result from the conflict of varied interests within self. There are situations in

which man needs to emancipate himself from conflicts so that a harmony may be reconstructed. Harmony cannot be guaranteed during this course; however, conflicts are reflected upon rationally through critical thinking. In this way, emotion and free will are led to the path of reason.

It can be concluded from the above analyses that the emotion and free will of critical thinkers are prevented from becoming an obstacle to rational life through communicative action, especially rational argumentation. On the other hand, emotion and free will might further yield self-transcendence through the desires for creation and emancipation.

This is not the case that "emotion is, no doubt, a formidable obstacle to critical thought" (Sabini & Silver, 1985, 15). It is understandable that an emotional state makes it particularly difficult for a person to "look at his own situation from a broader, moral perspective" (Sabini & Silver, 1985, 15). However, this is the very task of an autonomous person who possesses the abilities of self-realisation, self-reflection and self-actualisation. Apart from these dispositions and abilities, an autonomous person with critical thinking can emancipate himself from the fetter of emotion without reason.

Therefore, education must take the responsibility to improve pupils' ability for critical thinking so that they can live a rational life, rather than live a life of emotion without reason. According to the sufficient and necessary relationship between critical thinking and autonomy, improving the ability for autonomy will be as important as improving the knowledge and skills of critical thinking. As discussed, the significance of critical thinking must be revealed in the whole life. Thus, the teaching for critical thinking must be linked with pupils' lives.

IV. Redefining its meaning

The noesis of critical thinking consists of a set of inner movements. They are:

- a) pivoting its common characteristics on autonomy;
- b) interweaving genetic with dialectical development;
- c) enriching cognitive style of critical thinkers from one dimensionality to multiple dimensionality;
- d) emancipating men from alienation; and
- e) establishing rationality as its inner logic.

In this sense, the noesis of critical thinking has been clarified into a system of rationality of autonomy. An ideal type of critical thinking thus can be briefly mapped out from the noesis of critical thinking, and from its common characteristics. In this thesis, the communicative mode of critical thinking can be taken as the ideal type of critical thinking, because it is most fully developed in three ways:

- a) focusing intentionality on whole lifeworlds: in the belief that there are varied criteria for rationality, critical thinkers in the communicative mode question any singular, unquestioned universality. Not only the power of the supernatural belief and the natural law, but also the ingrained concepts rooted in culture, society and person are fought against. In the previous three modes critical thinkers' intentionality focuses on merely one dimension of lifeworlds, viz., supernatural, natural or transcendental world, whereas in the communicative mode, their intentionality is drawn by whole dimensions of lifeworlds;
- b) Proposing a quasi-universality: they propose a quasi-universality as the criterion for rationality, instead of a permanent, absolute universality for rationality. Each rationality represents a criterion for universality merely in a given circumstance. This contingent concept of universality

makes it possible for men to reflect upon any universality in our life. In this sense, a critical thinker must continuously examine the universality in individual and social lives.

- c) Reconstructing a quasi-universality via communicative action: critical thinkers stand on the bases of quasi-universality, so that they do not believe in a unique universality. Therefore, they hold that universality must be established through rational dialogues or argumentation and under the circumstance of equal freedom.

Then, the definition of critical thinking I give, which is grounded in the ideal type of critical thinking, is as follows:

critical thinking is a dialectical practice of mind of an autonomous person, by which the mental activities of skepticism, reflection, emancipation and reconstruction can promote a rational life, including physical, moral and aesthetical aspects, because of its potential of self-emancipation not only from external irrationality, but also from inner self-blindness and self-deception. In this way, critical thinking can be viewed as a drawing force to connect history with current life, through integrating human knowledge in different contents, in terms of time and space. In a word, critical thinking is an action of practice of reason, by which

self-transcendence becomes possible, due to the function of the self, i.e. self-realisation, self-reflection and self-actualisation.

This definition assumes that human beings are rational people. As Peters claims, "a reasonable man (i.e. a critical thinker) is one who is prepared to discuss things, to look at a situation impartially from the point of view of others than himself, to discount his own particular biases and predilections" (Peters, in Dearden (eds.), 1972, 212). Also, as for Plato, cultivating a rational person is at the very least significant for society.

Conclusion

Critical thinking cannot be isolated from rationality, which locates the inner logic of critical thinking. In this sense, the claim that critical thinking is rational thinking cannot be rejected. Further, critical thinking emerges from a conflict situation, in which self-contradiction manifests a deficiency of intellectual power in dealing with human problems. Under this circumstance, critical thinking must be involved in lifeworld, which is constituted by both consistency and contingency, rather than a metaphysical concept. Thus, not only expert knowledge and abilities, but will, courage

and wisdom are also required, because human life is a life of reason with emotion in their broadest senses.

Critical thinking is significant for human beings to engage in continuous reconstruction for a good life. Kurfiss claims, "critical thinking is an essential capacity of citizens in a healthy democratic society... and it contributes to a more rational and humane society" (Kurfiss, 1988, vi). Lipman suggests that "educated people should develop both the capacity to solve challenging problems and the ability to think critically about political, social, and cultural issues" (Lipman, 1989, 20). However, as Zeitlin points out, "enlightenment thinking had a negative and critical as well as a positive side" (Zeitlin, 1981², 5), it however must also be admitted that critical thinking is not a panacea for solving human problems.

There may be no established teaching methods and contents to cultivate a person into a critical thinker. Instead, simply principles which will help teachers and pupils develop their potentialities of critical thinking, i.e. abilities, dispositions, will, courage and even wisdom, very likely can be offered for teaching critical thinking. That is, the teaching for critical thinking must be contingent in varying contexts, while learning by thinking

and learning by experiencing must be taken as significant principles for perceiving contingent teaching contexts. Meanwhile, an open and free circumstance must be appreciated.

In chapter six, I shall first distinguish the teaching of critical thinking from indoctrination in education, in order to bring out in chapter seven instructional principles for critical thinking teaching in primary school education in Taiwan. Before that, more needs to be said about the nature of the good life to which, as already indicated, critical thinking has an important contribution to make.

Chapter V

CRITICAL THINKING AND GOOD LIFE

I. The contemporary problematic

A. Dehumanisation and depersonalisation

B. The constraint of ideology: an unquestionable authority

**II. The sketch of a good life through autonomy and harmony:
a happy and intelligent life**

III. Critical thinking is significant for a good life

Conclusion

Chapter V

CRITICAL THINKING AND GOOD LIFE

This chapter aims at drawing a picture of a good life through critical thinking, and justifying the value of critical thinking for a good life. The ideas tested are that: a) the problems which are harmful for a good life result from the lack of critical thinking; and b) critical thinking is instructive or necessary for a good life. In other words, these problems can be removed through critical thinking.

Three tasks will be dealt with in this chapter. First, it will review those

problems which contribute to the failure of a good life. Second, the picture of a good life will be dialectically sketched out from reflection upon these problems. Then, the significance and the value of critical thinking for a good life will be justified. In other words, this chapter will be divided into three parts: pointing out the contemporary problems of human beings; drawing out the picture of a good life; and highlighting the value of critical thinking for a good life.

I. The contemporary problematic

Three contemporary problems - dehumanisation, depersonalisation and the constraint of ideology - will be picked out from the viewpoint of critical thinkers, and then the cause of these phenomena will be analysed. The problems of life are not easily solved, even though a good life does not necessarily mean an unproblematic life. However, some problems do damage a good life.

Dehumanisation and depersonalisation make a man less individual and less autonomous. That is, social dissatisfaction and individual isolation increasingly influence our life. Thereby, man is degraded into an instrument of culture or society.

The tension between culture, society and person imposes on us in two ways: traditional heritages; and social legitimation. Both of them are expected to contribute to individual development, whereas they restrict the range of individual diversity through narrowing the scope of the communicative horizon.

Doing one's obligation instead of actively taking responsibility weakens the ability for self-reflection. In the end, self-identity might become the reproduction of culture and/or society, when the person is concerned merely about instrumental rationality, and when self-reflection also stresses merely the instrumental aspect. Then, personal potential would be moulded within an one-dimensional aspect, rather than within a many-dimensional aspect.

A. Dehumanisation and depersonalisation

In a way it is surprising that humanness in social life (humanisation) and as a person in individual life (personalisation) are being defended here, after the modern power of scientific rationality has produced so many benefits for human beings. Its revolutionary achievements have been confirmed,

and have pervaded not only the physical aspect of life, but the mental aspect of life as well. No doubt, the machine rather than the worker has created the progress of material civilisation, i.e. a rich and convenient material life, since the eighteenth century. Such a series of triumphs can also be seen nowadays in technological achievements such as the Euro-Tunnel which will start in 1993; the subway system in greater Taipei; and the skyscrapers of New York, Chicago, and in Taiwan. Enlightened rationality in the physical aspect is pervasive and powerful as such; but it can also destroy a city and even threaten the planet.

Enlightenment has been as a dominator in the mental aspect of life as in the physical aspect of life. Corresponding to such triumphs of enlightened scientific rationality, man suffers from exploitation both within and between culture, society and person, viz., person-society, person-person, and culture-culture. This leads to the analysis of *one-dimensional man* in Marcuse's terms (1986), *instrumental reason* in the terms of Horkheimer and Adorno (1973), and *alienation* in Marx's terms (1976). All of them reflect upon the domination of enlightened scientific rationality. Horkheimer and Adorno analyse the positive and negative functions of enlightened rationality in human life. They say,

The instrument by means of which the bourgeoisie came to power, the liberation of forces, universal freedom, self-determination - in short, the enlightenment, itself turned against the bourgeoisie once, as a system of domination, it had recourse to suppression. (Horkheimer & Adorno; Cumming (trans.), 1973, 93)

By the same token, Habermas points out four crises in our lifeworlds. These are: "the politics and economy crisis", "the rationality crisis", "the legitimation crisis", and "the motivation crisis" (Habermas; McCarthy (trans.), 1975), which emerge from the dissatisfaction with political policies, social systems, dogmatic reason and self-identity.

It is easy to see that a paradigm, a rule (norm), or society which is governed under dogmatic authority or power may be accepted uncritically. For example, in a social group, any change from an earlier pattern of action may be noticed or exaggerated by others, such as 'you are not the same as you used to be', 'oh, we are seeing the real you', or 'we never knew you were really like this'. These group-pressures could probably force someone to return to his previous behaviour, and, psychologically, to look for conformity instead of diversity, in order to live securely. As Stephen claims, personal relationships can come to be seen "as

characterised by continuously tortuous change" (Brookfield, 1987, 228). To avoid this, people are inclined to move to conformity with common patterns of action. Then, this conformity will reduce people's capacities for creativity and reflective thinking.

In this way, the individual is alienated from real life. Marx claims that alienation was a necessary result in a capitalist industrial society (Marx, 1932), though he holds that "men make circumstances (Trigg, 1988, 104)". Trigg summarises Marx's key concept of alienation as that "the more the worker creates things, the more they seem to become an alien, objective world.... Work, instead of being the free and creative expression of individuality, becomes an instrument of degradation and dehumanisation" (Trigg, 1988, 105).

Similarly, when analysing Marxism and morality, Lukes points out that ethical rules are determined by powers stronger than individual will. He claims that "ethics is not a matter of convention, nor something which the individual chooses at will, but are determined by powers which are stronger than the individual, which stand over him" (Lukes, 1985, 17). In Lukes' words, Marx believed that "morality is what serves to destroy the old exploiting society and to unite all the working people around the

proletariat" (Lukes, 1985, 22). It is true for Marx (1932) that the working class in an instrumental society was bound to develop an attitude or ability to be in accordance with the social ideal, and morality serves rules for individual development. The above discussion of alienation confirms that men are suffering from dehumanisation and depersonalisation.

Instrumental rationality, which is one of commonalities of human nature, cannot be completely ignored in human life. However, it could become the dominator of life, if the ability of reflection disappears. It seems to me that the commonality of human nature or the consensus of social action should not have been ignored by Marx and Lukes. It can be agreed that once man becomes an instrument of culture or society, he must be far away from freedom, imagination or creation. Further, once the whole of life is dominated by instrumental rationality, man will be alienated from himself. In this sense, Marx and Lukes' reflection upon instrumentality reminds men not to be dominated by instrumental rationality. Yet, this does not mean that instrumental rationality must be expelled from human life. On the contrary, instrumental rationality, like moral or aesthetical rationalities, must flourish through self-realisation, self-reflection and self-actualisation.

Establishing a rational relationship between culture, society and person is one of the tasks of critical thinkers in practical life. In order to show that human beings must adjust tradition to conform with human development (Nyiri 9eds.), 1988, 25), Nyiri distinguishes 'primary tradition (strong traditionalism*)' from 'secondary tradition (weak traditionalism)'. In fact, not all rules are ultimately grounded in traditions, but some are constituted by 'freedom fighters' (Brookfield, 1987, 67). That is, 'secondary tradition' might be created by men, though it must grounded in primary tradition. Brookfield reminds us that "unless we become critical thinkers during periods of crisis, we are condemned to view our lives as constantly changing, essentially irrational sequences of random happenings that are out of our control" (Brookfield, 1987, 42).

It seems to me that establishing a rational relationship between culture, society and person is the task of critical thinking in practical life. Brookfield is keen to apply critical thinking to practical life. He claimed

* strong traditionalism: according to Nyiri, "'strong traditionalism' implies that reason itself is ultimately grounded in traditions" (Nyiri (eds.), 1988, 25), or "rationality just is the certificate we give to any conduct which can maintain a place in the flow of sympathy, the coherence of activity, which composes a way of living" (Nyiri (eds.), 1988, 25).

that "critical thinking is not an abstract, rarefied academic process, observable only in college classroom or undergraduate essays. It is an activity embedded in the vivid contexts of adult lives" (Brookfield, 1987, 228). It appears from Brookfield's notion that the problems of dehumanisation and depersonalisation, which are caused by enlightened scientific rationality, can be solved through critical thinking. Then, the question will be asked: how can critical thinking reach such a great achievement?

Basically, according to the characteristics of critical thinking, a thinker is shown to be an independent 'subject' through self-reflection. In this sense, a critical thinker needs to be a free subject with free self-consciousness. Apart from that, with the characteristics of emancipation and reconstruction, (s)he is a creative participant with self-reflection both in social life and in individual life.

McLean in his 'Person, Creativity and Social Change' tries to answer the question which concerns the nature of the person as the subject of social life. He respects the value of the person in the universe. He says,

The individual, then, is not simply one thing rather than any other; he or she is a being of a definite - in this case a human - kind relating to other beings each with their own nature or kind. Only thus can one's life in the universe have sense and be able to be valued. (McLean, 1991, 5)

This notion implies that the characteristics of the subject make the person significant, not only for oneself but also for society. This implication is significant for critical thinking, especially for the fourth mode of critical thinking.

Critical thinkers are expected to be open to new actualisation. Dealing rationally with the social life and the personal life is one of the core tasks of critical thinkers within the fourth mode of critical thinking. The individual subject relates with himself through self-realisation, self-reflection and self-actualisation, while the subject exercises rational argumentation with others through communicative action. In other words, with self-realisation and self-actualisation, critical thinkers act as independent subjects, i.e. each is a whole agent and acts in his own rationality. Simultaneously, with self-reflection and through communicative action, people reach a rational consensus, by which conflicts are temporarily dissolved. In this way, individual diversity is

mixed up with social commonality, and then, the social consensus is therefore expanded.

Dehumanisation or depersonalisation is relieved temporarily through critical thinking in two ways. First, self-realisation and self-reflection keep a person away from being dominated by self-ideology or by external authority. Second, rational argumentation, grounded in communicative action, helps the person to establish and expand rationally the consensus between the individual and society, between society and society. In the course of this, critical thinkers take themselves as independent subjects, while they also take others as independent subjects. Thus, each is fundamentally free to express himself, and each has respect for the same dignity in others. This capacity, process and outcome are viewed as humanness.

B. The constraint of ideology: an unquestionable authority

Apart from the problems of dehumanisation and depersonalisation, another pattern of problem, found in the individual, family, society and state, is the constraint of ideology. All man can do is to defer to such an unchangeable principle, when such an ultimate authority, e.g., divine law or logos, is

rooted in human ideology. Such an unchangeable authority, in Western culture, is God, whereas it is *Tian* (the Heaven) in Chinese culture; for the Chinese, it is parents' or elders' authority in a family, while it is the moral law or social legitimation in society. Whatever types it has, this authority seems not to allow itself to be questioned. More dangerous than that, such ideology has to be accepted as a *universal law* through the powers of culture, society and politics. That is, it is viewed as the law of *a priori* for a good life. Therefore, any rebellion against this principle will be viewed as the termination and the destruction of human development. This ideology has been shown in Chinese thought (Confucius, *The Four Books*; Lao-tze, *Tao De Ching*), for example.

Accepting such a belief without justification confines the development of reason to a closed system of thought. Noting this crisis, Habermas (1984) tries to establish the rationality of a modern society characterised by communicative action. This is a society in which the lifeworlds of culture, society and person are not split from each other (Habermas; McCarthy (trans.), 1987). In order to engender human critical thinking, Habermas shows us the imperfection of society when he criticises M. Weber's theory for not being complete (Habermas; McCarthy (trans.), 1987). The following problems he identified are particularly useful for us when we

reflect upon the ideology of culture, society and person. They are:

- a) why the differentiation of economics and administrative systems of action at all pushes beyond the bounds of what is necessary for the institutionalisation of money and power;
- b) why the subsystems build up irresistible internal dynamics and systematically undermine domains of action dependent upon social integration;
- c) why cultural rationalisation not only sets free the inner logics of cultural value spheres, but also remains encapsulated in expert cultures;
- d) why modern science serves technical progress, capitalist growth, and rational administration, but not the understanding that communicating citizens have of themselves and the world;
- e) why, in general, the explosive contents of cultural modernity have been defused. (Habermas; McCarthy (trans.), 1987, 327-8)

The ideology of holding that there is an unchangeable authority projects the characteristic of belief in the unchangeable social ideal and in the unquestionable authority in life. In my view, the social ideal suggests that man is always socially determined, and collectivism is always the guide not only in personal life but also in natural environments. The unchangeable authority shows us that it is the *right* way of human action so that it must be deferred to, instead

of being questioned.

Under the control of such ideology, self-reflection rests in how the person adjusts to, rather than goes beyond, this authority. That is, self-reflection is absorbed in this authority, and then self-determination is covered with the framing of social-determination. In this way, the person becomes a role, a given rather than a subject - a role, playing what he will do. At that moment, the relationship between individual and society needs to be clarified, in order to reveal its irrationality (Of course, a conflict situation is also helpful in prompting reflection upon the irrational.). Then, the individual may be emancipated himself from the negative ideology, e.g., the authority of collectivism.

The study of the relationship of the individual and society has had a vast variety of forms: for example, what is a person and what is a society; how are these two interwoven; how does society or cultural heritage influence the person; whether society is changed through the person or vice versa etc. However, these questions can be dealt with from the aspect of the person, mainly, the concept of self.

R. A. Graham in his 'The Traditional Self in a Changing Society' examines the changing value of self and society from the viewpoint of psychologists, educators and philosophers, e.g., Piaget, Kohlberg, Bruner, Dewey, St. Thomas Aquinas and Spinoza (Graham, in McLean (ed.), 191, ch.v). He agrees with Kohlberg's conclusion that he has "found no better summary statement of the implications of his studies than that made by Socrates" (Graham, in McLean (ed.), 1991, vol. 1-8, ch.v, 79). Socrates's conclusions quoted by Graham are:

First, virtue is ultimately one, not many, and it is always the same ideal form regardless of climate or culture.

Second, the name of this ideal form is justice.

Third, not only is the good one, but virtue is knowledge of the good. He who knows the good chooses the good.

Fourth, the kind of knowledge of the good which is virtue is philosophical knowledge or intuition of the ideal form of good, not correct opinion or acceptance of conventional beliefs. (*Meno*, Graham, in McLean (ed.), 1991, vol. 1-8, ch.v, 79)

According to Socrates, to choose the good must be to know the good (or virtue), which is universal. The reason why it is difficult for human beings to choose the good is that the good is too abstract to know. Here, I do not

intend to take the concept of good as that of Socrates' or Kant's (Kant; Abbott (trans.), 1932), i.e. the idea of good grounded in the law of *a priori*. Rather, I will deal with it as a posterior. The law, which needs no justification because, according to Kant (Kant; Abbott (trans.), 1932), it is self-evident, is hard to grasp. On the other hand, the functions of will, in Kant's terms, such as rectifying the principle of acting, and correcting the external influences on the mind (Kant, 1932, 10), can be brought down to human life. In noting the absence of *a priori* argument, critical thinking, in this thesis, will be applied to deal with real life.

In my view, the functions of will, in Kant's terms, belong to the tasks of reflection and reconstruction, according to the characteristics of critical thinking. According to the other characteristics of critical thinking, i.e. skepticism, emancipation and autonomy, such *a priori* universality might be reflected upon by critical thinkers. To be precise, the crucial constituents and applications of critical thinking will be shown in the tasks of self-realisation, self-reflection and self-actualisation for establishing the rationality of a good life.

Many-sided, reflective thinking is the crucial part of self-realisation, self-reflection and self-actualisation in helping men to extend the horizon

of understanding, from the egoistic striving of individuals to uniting men themselves with the objective circumstances. People with many-sided thinking will be concerned with the relationship of the individual and the individual, the individual and society, and the individual and culture. In this way, the scope of cognitive style will be expanded. Also, in this way, the range of reflection will be extended from the dimension of the person to the dimensions of society and culture. Then, the achievements of self-actualisation will be multifarious with the diversities of purposes on varied dimensions of life. In this sense, universal authority may be questioned by critical thinkers. In fact, to reflect upon authorities or legitimation of culture and society is the key task for critical thinkers in constructing a good life, because these authorities will distort the nature of the person and of individual development, especially the enlightenment of reason.

An authority might have contributed its positive function to society, before men accept it as the universal law. Harmony, which is taken as the Way of the Heaven in Taoism and Confucianism (*Tao De Ching, I-Ching, The Analects*), is equivalent to the Ultimacy, the Sacred or God in Western culture. As J. Farrelly states in 'Human Flourishing and Contemporary Experience' from the viewpoint of religion, "in classical Western and

Eastern cultures, human flourishing was generally understood as brought to completion only by the human person's relation to the Ultimacy, the Sacred or God" (Farrelly, in McLean (ed.), 1992, ch.1, 1). All Chinese virtues, e.g., loyalty, filial piety are based on the spirit of harmony (*Tao De Ching, I-Ching, The Analects*), because harmony did function successfully to restore a chaotic society to social order, especially in the period of the Spring-Autumn and the Warring State (770-221 B.C.).

Given what is achieved under it, harmony becomes the dominator in Chinese culture and society, leading to the ideological belief that there is an unquestionable authority. Thus, I shall take harmony as an example to argue the possibility of ideological belief, for a person who lacks critical thinking, constraining individual development from autonomy.

According to Chinese thought, harmony, being a dialectical crystallisation of all things and the source for a good life (*I-Ching*), preserves a peaceful life for us both in physical and in mental aspects (*The Doctrine of the Mean*). The functions of harmony are also justified by philosophical and psychological researches. Kant, for example, admits positively that "reason is unable to bring them [objectives] into harmony with the universal laws of nature. Yet they are not arbitrarily conceived" (Kant; Smith (trans.),

1968⁹, 422). He further argues that:

Every concept ...has its own horizon, that is, a variety of things which can be represented, and as it were, surveyed from that standpoint...Each of which has its own narrow horizon;... But for different horizons, that is, genera, each of which is determined by its own concept, there can be a common horizon... at the universal and true horizon, which is determined from the standpoint of the highest concept, and which comprehends under itself all manifoldness - genera, species, subspecies. (Kant; Smith (trans.), 1968⁹, 542-543)

The notions of "genera", "common horizon" and "the highest concept" belong to the family of harmony. "Harmony", i.e. "co-existence", offers the room for freedom and "natural necessity" so that they can exist without conflict (Kant; Smith (trans.), 1968⁹, 478-479). Therefore, there must be a common horizon among the diversity, even though each can be determined by its own concept.

Hegel also appreciates the value of harmony. He takes a universal *I* as an a priori harmony to synthesise positive and negative truths. Hegel claims that the highest aspect, "I", or "Spirit", is the *thing* which never disappears (Hegel; Miller (trans.), 1977, 610). It implies that harmony (synthesis)

exists metaphysically. He takes, *now, tree* and *house* for example to explain the highest *I*, which never disappears. He says,

...you turn round, then you see the house instead of tree... Both truths have the same authentication, viz., the immediacy of seeing, and the certainty and assurance that both have about their knowing; but the one truth vanishes in the other. (Hegel; Miller (trans.), 1977, 610)

Further, he points out the universal nature of harmony, which is synthesised harmoniously from thesis and antithesis. He says, "what does not disappear in all this is the *I* as universal. What *I* mean is *general, I* is a priori" (Hegel; Miller (trans.), 1977, 62). In this sense, the *a priori I* involves the power of universality in dominating the worlds of the object and the subject.

On a par with Hegel, Piaget's theory of equilibration is integrated from two dimensions of cognition into a new set of schema. He claims that "the various individual structures are not entirely independent, but are themselves dynamically interrelated" (Piaget, in Modgil (eds.), 1982, 19). Moreover, according to his theory of equilibration, cognitive development "is a dialectical interrelation when two systems ... become integrated into a

new totality, the properties of the latter transcending the properties of the former" (Piaget, in Modgil (eds.), 1982, 415). Both Hegel and Piaget are keen on harmony. They take harmony as the signpost of reconstruction for a new rationality or a new scheme of cognition.

However, whether harmony exists metaphysically might be arguable. The guiding function of harmony in our daily life, as showed in the above discussions, cannot be rejected. A harmonious life makes men comfortable. However, it means neither that man must give up his reason in order to reach harmony, nor that harmony can be viewed as unchangeable authority because of its efficiency in human life. On the contrary, the rationality of harmony must be reflected upon, so as to maintain for harmony a rational function, in which individual development is improved rather than restrained.

Like harmony, any authority, which is established on the basis of its efficiency in life and contribution to the development of human life, needs to be continuously reflected upon, because of the possible change of the relationship between culture, society and person. That is, skepticism, reflection, emancipation and reconstruction reveal the significance for human life from questioning the ideology which is sticking to an authority.

In this sense, men should employ critical thinking to deal rationally with conflicts between person and person, person and society, and person and culture. That is, harmony can be viewed as an ideal of life, but its rationality for human development in different circumstances might be different with different purposes.

Critical thinking emerges from the situations of ambiguity, diversity and frustration. As Brookfield claims, "most significant advances in peoples' ability to think critically arise out of periods of frustration and struggle" (Brookfield, 1987, 234). In this sense, "a degree of ambiguity should be expected as a constant feature of attempts to encourage critical thinking, given the complexity of variables present. Diversity in methods and materials is necessary" (Brookfield, 1987, 233).

In Brookfield's view, ambiguity, diversity or frustration are not necessarily in conflict with harmony. In fact, three possible results will occur on the way toward reconstructing the rationality of harmony. They are: confirming the established harmony; integrating a new conflict into the established harmony; and creating an entirely new harmony. Each possibility implies a different form: reinterpreting the meaning of harmony; enriching the content of harmony; and recreating a new

rationality of harmony.

In sum, an unchangeable authority, e.g., harmony, could either be a contribution to a good life or a restraint of personal freedom. The criteria for distinguishing the contribution from the restraint rest on: whether there is enough room for personal freedom; whether personal development can co-exist with authority; and whether such an authority can be questioned and reflected on. In a word, the criterion for whether authority plays a negative or positive role depends upon whether it contributes to human development or it restricts human development under its power. In this sense, critical thinking is taken not only as its criterion, but also as the means for preventing authority from having negative functions in human life.

II. A sketch of a good life through autonomy and harmony: a happy and intelligent life

The concept of a good life is not universal. We may agree, for instance, with the idea that "no pleasure in life other than books" (Becker, 1967, 61), or the idea that one should "live for today and let tomorrow look after itself" (Brown, 1986, 61). Nevertheless, everyone can draw his own

picture of a good life. As A. MacIntyre claims, "there is no recipe for the good life and the good life can never be found apart from the journey" (MacIntyre, 1984, 219). Similar to MacIntyre, A. Brown claims that "there is a lack of an adequate theory of the human good" (Brown, 1986, 131).

In Chinese culture, Tao (Way), or the Heaven projects the original principle for human beings, from which the principle for a good life is self-evident (*Tao De Ching*, ch. xxv). Lao-tzu confirms the nature of self-evidence of Tao (the Heaven, the Way) by saying that

the function of the great virtue is to follow the Tao. The Tao is uncertain and indefinite. Though uncertain and indefinite, there is form within it. Though indefinite and uncertain, there is a being within it. Though profound and obscure, there is the essence. The essence is a reality which can be proved. From the beginning till the present, its name has remained unchanged. It is the "common father", the Tao. (*Tao De Ching*, ch. xxi)

He claims implicitly that following Tao is the right way towards a good life.

No matter whether there is a consensus about the concept of a good life, a

good life is being approached, if questions are reflected upon such as, "when serious questions of value arise, deliberation on who one is, and who one wants to be, yields ethical advice concerning the good life" (Habermas; Lenherdt & Nichol森 (trans.), 1990, vii). Thus, in this chapter I look to contemporary problems, and then bring the nature and significance of autonomy, harmony and reconstruction, which are the characteristics of critical thinking, to the concept of a good life.

The contemporary problems, i.e. dehumanisation, depersonalisation and the restraint of ideology, have been analysed, then the concept of a good life will be discussed through critical thinking. Habermas takes a good life as the rationality by which the relationship between the individual and the individual, the individual and community will be rationally dealt with (Habermas; McCarthy (trans.), 1987). Therefore, solving problems of the lifeworld means moving towards a good life. He claimed that "the new problems (of lifeworlds) have to do with the quality of life, equal rights, individual self-realisation, participation, and human rights" (Habermas; McCarthy (trans.), 1987, 392). In this sense, it is adequate to establish the framing of a good life through critical thinking.

In investigating the contemporary problematic about human development,

two crucial pivots relative to a good life grounded in critical thinking will be noted. The first is the person, as an independent subject in personal life and as a creative participant in social life. The person develops through self-realisation, self-reflection and self-actualisation, where self-actualisation is taken as a process of continuous reconstruction. The second is the idea that emancipation from the authority which hampers human development must be encouraged through self-realisation and self-reflection. Emancipating men from the alienation or authority which hampers human development could passively make a person autonomous, while the reconstruction of rationality for a good life is an active creation of one's own autonomy.

The relationship between person, society and culture is reciprocal, as described. In order to flourish, the person needs to integrate individual potential into an understanding of society and culture, whereas the accumulation of culture and society is grounded in the development of the person. Self-realisation, self-reflection and self-actualisation are the *distinguishing* characteristics of autonomy. An autonomous person will integrate individual life and social life into a "rational harmony", in order to establish a good life.

In due course, further questions will be raised such as, can an autonomous person emancipate himself from alienation and authority; and how does the person reconstruct a good life after emancipation? These two questions will be discussed, where an autonomous person pictures a good life through critical thinking. That is, the tasks of autonomy and emancipatory rationality will be revealed in order to show the significance of critical thinking for a good life.

The first pivot of a good life is autonomy, in terms of critical thinking. Searching for autonomy has been shown in every mode of critical thinking in this thesis. In other words, it is through intentionality for autonomy that human beings have unfettered themselves from universality in the supernatural world, in the natural world and in the world of self-consciousness. This has been explained in chapter III. Here, I will focus on the significance of autonomy for a good life.

As Lindley pointed out, autonomy is vital to human happiness. He says,

a distinguishing feature of the values of liberal democracy is that individual autonomy is regarded as of vital importance - not just as a means to further ends, but for its own sake - as a constituent of human happiness or well-being. (Lindley, 1986, 115)

Nevertheless, questions will be confronted such as, does autonomy confirm that this is the case and how; does autonomy express each person in his uniqueness, etc.? These questions reveal the large range in the notion of autonomy. Moreover, in approaching the study of autonomy, one will encounter a considerable diversity regarding the notion of autonomy as the concept of freedom and choice. In other words, autonomy has so many meanings, and is as broad as the variations of human beings, no matter whether in ancient Greek times, e.g., Aristotle, or in the enlightened age, e.g., Kant, Hegel, or in contemporary times, e.g., Piaget (1970), Peters (1972), Rawls (1972), Cooper (1983), Lukes (1985), Lindley (1986), Trigg (1988), Dworkin (1988), Meyers (1989), Taylor (1989), White (1990) etc.

Therefore, for the sake of convenience in understanding the essence of autonomy, a categorisation would be helpful in identifying the understanding and concerns of a particular thinker regarding autonomy. This categorisation will be worked out through understanding the nature of critical thinking, by which one will be able to focus on the comparisons between thinkers on specific issues.

Three dimensions which are relative to autonomy will be picked out, by examining the various notions of autonomy in different modes of critical thinking and by identifying its possible criteria, and then narrowing them down to a small category. They are: the *freedom* one possesses; the role of *self*; and the *mode* of autonomy. The freedom of possession indicates the limitation of freedom, whereas the mode of autonomy is corresponding to the range of freedom through self-realisation, self-reflection and self-actualisation.

In this sense, autonomy is limited to the range of freedom. Thus, to expand the range of autonomy must release the limitation of freedom. The limitation of freedom can be removed through self-realisation, self-reflection, and self-actualisation. That is, the range of autonomy can be expanded by the processes of understanding (via self-realisation), emancipation (via self-reflection) and construction (self-actualisation).

Freedom of possession, by which the range of freedom is indicated, can be divided into three types, according to the nature of critical thinking. They are: circumstantial freedom, rational freedom and conscious freedom. Corresponding with these three types of freedom of possession, three modes of autonomy are patterned in the ground of critical thinking. The

three modes of autonomy are: extrinsic autonomy, instrumental autonomy and romantic autonomy. For example, one exercises political autonomy under favourable political circumstances; one employs instrumental autonomy within the capacity of calculated reason; similarly, one strives for romantic* autonomy with acquired wisdom, will and desires. Each mode of autonomy is exercised by self through self-realisation, self-reflection and self-actualisation. The scheme of autonomy in terms of critical thinking can be sketched as follows.

Table 5.1 The scheme of autonomy

<i>freedom of possession</i>	<i>role of self</i>	<i>mode of autonomy</i>
circumstantial freedom	self-realisation	extrinsic autonomy
rational freedom	self-reflection	instrumental autonomy
conscious freedom	self-actualisation	romantic autonomy

* romantic autonomy: in this thesis, a person who exercises romantic autonomy is assumed to be rational, even though irrational affection indispensably partly constitutes his action. However, his reason will be expected to be able to handle the irrational action. More than that, being authentic to oneself is taken as his ultimate reason by the person who exercises romantic autonomy. Also, in this sense, it is understandable that Cooper appreciates the concept 'authenticity' rather than that of 'autonomy' (Cooper, 1983).

The essence of autonomy in the view of different thinkers can be grasped by the scheme of autonomy I have worked out as the above. For instance, I. Berlin's claim in his 'Two Concepts of Liberty' (1969) that 'I wish to be my own self' is significant for the mode of romantic autonomy.

For Kant, autonomy is the obligation of the self-legislated principle, viz. Reason. He states that "a being which gave itself the moral law, and where freedom, therefore, is autonomy, would not be conscious of obligation or duty, since the moral law would coincide with its will" (Kant; Abott (trans.), 1967¹¹, iv). Also, he claims that "the moral law is not a mere precept imposed upon us from without, nor is it forced upon us by our sensitive nature, it is a law prescribed to us, or, more correctly speaking, revealed to us, by our own Reason" (Kant; Abbott (trans.), 1967¹¹, liv).

That is, Kant appreciates also romantic autonomy. This intention can be shown in Kant's pointing out two objects, i.e. nature and freedom, for the legislation of human reason (Kant; Smith (trans.), 1968⁹, 658). For Kant, nature relates to physiology of pure reason, while freedom relates to transcendental philosophy, which deals with moral principle, i.e ought to be (Kant; Smith (trans.), 1968⁹, 662). Apart from that, Kant also states that "the interests of my reason, speculative and practical, combine three

following questions: a) what can I know; b) what ought I to do; and c) what may I hope (Kant; Smith (trans.), 1968⁹, 635). Compared with the scheme of autonomy, "what can I know" and "what ought I to do" belong to instrumental autonomy, which is exercised by a person who possesses rational freedom. On the other hand, "what may I hope" seems to me that one tries to strive to "transcend all limits of experience" (Kant; Smith (trans.), 1968⁹, 23), in Kant's terms.

Following Kant's idea, J. White tries to connect Kant's romantic autonomy with the practical life in society. In my view, he tries to connect romantic autonomy with extrinsic autonomy. His notion about autonomy can be seen in his criticism of Callan's and Raz' ideas of autonomy. First, he argues against E. Callan that if "there are no experts on the good life, it does not follow that autonomy is a good life" (White, 1991, 96). It is the case that White assumes the existence of romantic autonomy. Then, he criticises J. Raz's concept of autonomy that it seems to work merely for the weaker sense of autonomy*. White instead emphasises the significance of the

* weaker sense of autonomy: for White, personal autonomy is divided into a stronger sense and a weaker sense. The stronger sense requires critical reflectiveness about social structures, while for the weaker sense, one simply accepts the conventional structure around one (White, 1991, 100), because in the view of the weaker sense of autonomy, the conventional structure is taken as a rational product, by which a stable society can be maintained.

stronger sense of autonomy (White, 1991, 100).

The stronger sense of autonomy, for White, is close to the concept of critical thinking in this thesis in the sense that an autonomous person must be capable of reflecting critically upon conventional structures. This idea would avoid the pessimism of Dworkin's account. Dworkin claims,

our dispositions, attitudes, values, wants are affected by the mass media, by the force of public opinion, by social class, and so forth. To a large extent these institutions are not chosen by us; we simply find ourselves faced with them. From Humboldt, Mill, and De Tocqueville to Marcuse and Reisman, social theorists have worried about how individuals can develop their own conception of good life in the face of such factors, and how we can distinguish between legitimate and illegitimate ways of influencing the minds of the members of society. (Dworkin, 1988, 11)

Habermas tries to integrate extrinsic autonomy, instrumental autonomy and romantic autonomy into communicative action. He points out the reciprocal interaction between the individual and society. He explains that

autonomous organisation is that, by means of membership conditions that

have to be accepted all at once, they can make themselves independent from communicatively structured lifeworld relations, from the concrete value orientations, action dispositions - susceptible to conflict as they are - of persons who have been pushed out into the environment of the organisation. (Habermas; McCarthy (trans.), 1987, 172)

The values of autonomy have been shown in the development of critical thinking. They are: autonomy is called for when men try to avoid being an instrument of culture, society or person; autonomy is indispensable for widening the scope of either individual diversity or communicative horizon; and autonomy functions actively for creating the person, society and culture, instead of becoming passively the reproduction of culture and society. In this sense, none but an autonomous person is free enough to function as a self-identity, i.e. the self possesses self-assertion, self-sovereignty and self-dignity, and acts through self-realisation, self-reflection and self-actualisation.

Next, the significance of autonomy for a good life will be revealed. As in Dworkin's analysis, an autonomous person is capable of regulating himself and circumstances around him. He claims that "autonomy is a term of art introduced by a theorist in an attempt to make sense of a tangled net of intuitions, conceptual and empirical issues, and normative claims"

(Dworkin, 1988, 7). Further, he links autonomy with moral concern, and highlights the function of self-reflection, especially, reflection upon authority and tradition. He points out that in autonomy as

a moral notion - shared by philosophers as divergent as Kant, Kierkegaard, Nietzsche, Royce, Hare, and Popper - the argument is about the necessity or desirability of individuals choosing or willing or accepting their own moral code. We are all responsible for developing and criticising our moral principles, and individual conscience must take precedence over authority and tradition. I am not defending this line of reasoning but it is certainly a body of thought which makes use of the notion of autonomy, and has a corresponding set of problems connected with responsibility, integrity, and the will. (Dworkin, 1988, 11)

Human abilities, e.g., morality and imagination, function authentically when the subject acts as an autonomous person both in social life and individual life. Dworkin's explanations confirm this claim that autonomy is assumed to make a person as a whole (Dworkin, 1988, 10). Dworkin points out that "autonomy functions as a moral, political, and social ideal. In all three cases there is value attached to how things are viewed through the reasons, values, desires of the individual and how those elements are shaped and formed" (Dworkin, 1988, 10).

While Dworkin stresses the moral aspect of autonomy, Lindley connects autonomy with happiness as such. He claims that "autonomy is a vital interest not only because it is usually a means to the other ingredients of happiness, but also because it is a constituent of happiness itself" (Lindley, 1986, 106).

However, questions about the relationship between happiness (good life) and autonomy might be raised. For example, why is autonomy a good thing; is being an agent the value of autonomy; will a society get better without autonomy etc.? Their answers can also be delivered from the scheme of autonomy.

According to the scheme of autonomy, the range of freedom must be expanded, before the mode of autonomy is broadened. Meanwhile, the role of self can be viewed as the cornerstone of autonomy, because self-realisation is the ground of 'mutual-understanding', and self-reflection bridges the operation of communicative actions between different dimensions of cognition. Then, self-actualisation produces personal development and growth. In other words, with the functions of self-realisation, self-reflection, and self-actualisation, an autonomous person not only understands himself and circumstances around him, but

also emancipates himself from extrinsic and intrinsic restraints, then he reconstructs his life through expanding the range of autonomy. Therefore, autonomy must be one of the keystones of a good life.

The second pivot of a good life is emancipatory rationality, which paves the way for the reconstruction of a good life. Emancipating man from alienation or unchangeable authority, such as negative ideology, paves the way for autonomous harmony. Given that unchangeable authority is accepted as a universality - pseudo-universality - the person could hardly be autonomous. That is, his self-realisation cannot be just allowed to go beyond such an authority, and self-reflection will be limited to the framework of such an authority as well. Then, self-actualisation will not be achieved. Nevertheless, emancipation results will keep oneself away from authority. During the course of emancipation, not only social authority but also individual ideology are reflected upon, and from which emancipatory rationality results.

Take tradition as an example. Individual development is influenced by tradition in two ways. One is by the inherited cultural context; the other is acquired from formal learning. Thus, emancipating the person from the negative function of tradition will be necessary for a good life. Then

questions would be raised such as, why is the heritage accepted; how is it imposed on us, and how can one emancipate oneself from it? In order to answer these questions, the positive and negative functions of tradition for life will be analysed.

Tradition is the outcome of human life, the source of value systems. Tradition not only shapes our individual value system, but also locates the relationship of the individual and others, viz., person and person, or person and circumstances. McLean stresses the positive significance of tradition by claiming that

tradition then, is, not simply everything that ever happened, but what appears significant. It is what has been seen through time to be deeply true about human life. It includes the values to which our forebears freely have given passionate commitment, either in specific historical circumstances or over time in reaffirming a work of literature whose worth has progressively emerged as something upon which character and community can be built.
(McLean, 1991, 135)

Similarly, Nyiri points out that "the tradition capable of absorbing a variety of other traditions, or the tradition that emerges as an amalgam of various particular ones, will then possess, or amount to, what might be

called relative rationality" (Nyiri, 1988, 25). More than McLean, Nyiri points out also the negative function of tradition, when the power of tradition is revealed. He analyses,

tradition is surrounded by a family of related terms. This family would include terms like authority, convention, custom, disposition, habit, institution, mentality, morals, norm, paradigm, practice, prejudice, rule, skill, style, taste, technique. (Nyiri, 1988, 27)

These quotations show us the power of tradition. This also reveals the importance of the ability for reflection. Habermas points out that one would be fettered by tradition, if one lacks reflective thinking. He says,

the more cultural traditions predecide which validity claims, when, where, for what, from whom, and to whom must be accepted, the less the participants themselves have the possibility of making explicit and examining the potential grounds on which their yes/no positions are based. (Habermas; McCarthy (trans.), 1984, 70-1)

Therefore, reflecting upon tradition is the very place for emancipation and reconstruction to plan a good life. Emancipation aims at questioning the authority which hampers human development but does not permit itself to be reflected upon or changed, whereas reconstruction works by shaping

'autonomous harmony', which must be reached by an autonomous person, and through many-sided reflectiveness.

In other words, emancipation must be grounded in rationality which is constituted by good reasons or grounds. As Habermas claims, "rationality is understood to be a disposition of speaking and acting subjects that is expressed in modes of behaviour for which there are good reasons or grounds" (Habermas; McCarthy (trans.), 1984, 22). In this way, the rationality of a good life must lie in the process of becoming, with good reasons or grounds and with the changes of human knowledge in the broadest sense. Also, harmony will be built up for a good life, after one emancipates oneself from authority.

Next, whether autonomous harmony can be reached will be discussed. In other words, whether autonomy is in conflict with harmony will be analysed. Harmony includes the balance within the individual life, i.e. will and wish in Kant's terms, and the consensus between the individual and society, in Habermas' terms. From the viewpoint of critical thinkers, harmony implies the reconstruction of the relationship between the individual's subjectivity and group's intersubjectivity.

Harmony in itself is a good thing for life. Harmony is taken as a common good in Chinese culture. This is revealed from *Chung-Yung (The Doctrine of the Mean)* and *Tao De Ching*. Confucius said that "harmony is the way for all people. Following it, everything will naturally grow up" (*The Doctrine of the Mean*, ch.2). Lao-tzu claimed that "the Tao produces "The One." "The One" produces "The Two"...All things carry the Yin and Yang elements. They are united harmoniously" (*Tao De Ching*, ch. xxxii).

Harmony must be grounded in autonomy, because autonomy is aimed at rational harmony. Kant holds that "happiness is the condition of a rational being in the world with whom everything goes according to his wish and will" (Kant; Abbott (trans.), 1967¹¹, 221). For Kant, "virtue signifies a moral strength of will" (Kant; Abbott (trans.), 1967¹¹, 316). Therefore, a good life, though either transcendent or transcendental, must be the achievement of reason, including will, consciousness, and wish. Autonomy is such an ability for rational harmony. As Meyers claims, "one reason to think happiness is the guiding aim of autonomy competency is that the autonomous individual's existence is harmonious" (Meyers, 1989, 73).

In noting the relationship between autonomy and harmony, Trigg stresses

that "Aristotle connected virtue with harmony by demanding that virtues must be in harmony with others. The three virtues which made man good and virtuous are nature, custom and reason...each must be in harmony with the others" (Trigg, 1988, 26). This means that although "Aristotle was aware of the great divergence in practice between different constitutions, with different laws in different places" (Trigg, 1988, 27), he insists that harmony is necessary and fundamental for a good life.

In a word, autonomy is not in conflict with harmony as such, and in order to reconstruct a good life, not only autonomy but also harmony are needed. Both of them contribute to the same aim of life, i.e. the construction of a good life. As analysed, while autonomy sketches the realm of emancipation, harmony indicates the direction of the reconstruction of a good life.

To sum up, the three elements involved in a good life, in terms of critical thinking, are: autonomy, harmony, and reconstruction (or continuous construction). Harmony marks the ideal of happy life, whereas autonomy is against domination by exercising reason. Reconstruction, then, is in charge of the balance and the integration between harmony and autonomy. In the light of the relationship between autonomy, harmony and

reconstruction in creating a good life, autonomy is the foundation of a good life. With the function of autonomy, man emancipates himself from dehumanisation, depersonalisation and unquestionable authority. After that, man can reconstruct his life towards a rational development and growth with harmony through many-sided understanding and reflection. In this sense, reconstruction provides not just the integration of autonomy and harmony, but the indication of a good life as well.

The characteristics of a good life, then, can be formulated from the above discussions:

- a) a good life is the ultimate concern of human beings;
- b) the sketch of a good life can be illustrated from different viewpoints, but such a life must be made by the subject with self-realisation, self-reflection and self-actualisation;
- c) the criterion for a good life is autonomous harmony; and
- d) continuous reconstruction of a good life through critical thinking is a guarantee for rational growth and development of human beings.

Such a sketch of a good life, in which harmony and autonomy indicate the coordinates of a good life, and reconstruction points out the intersection of autonomy and harmony, can be illustrated as chart 5.1.

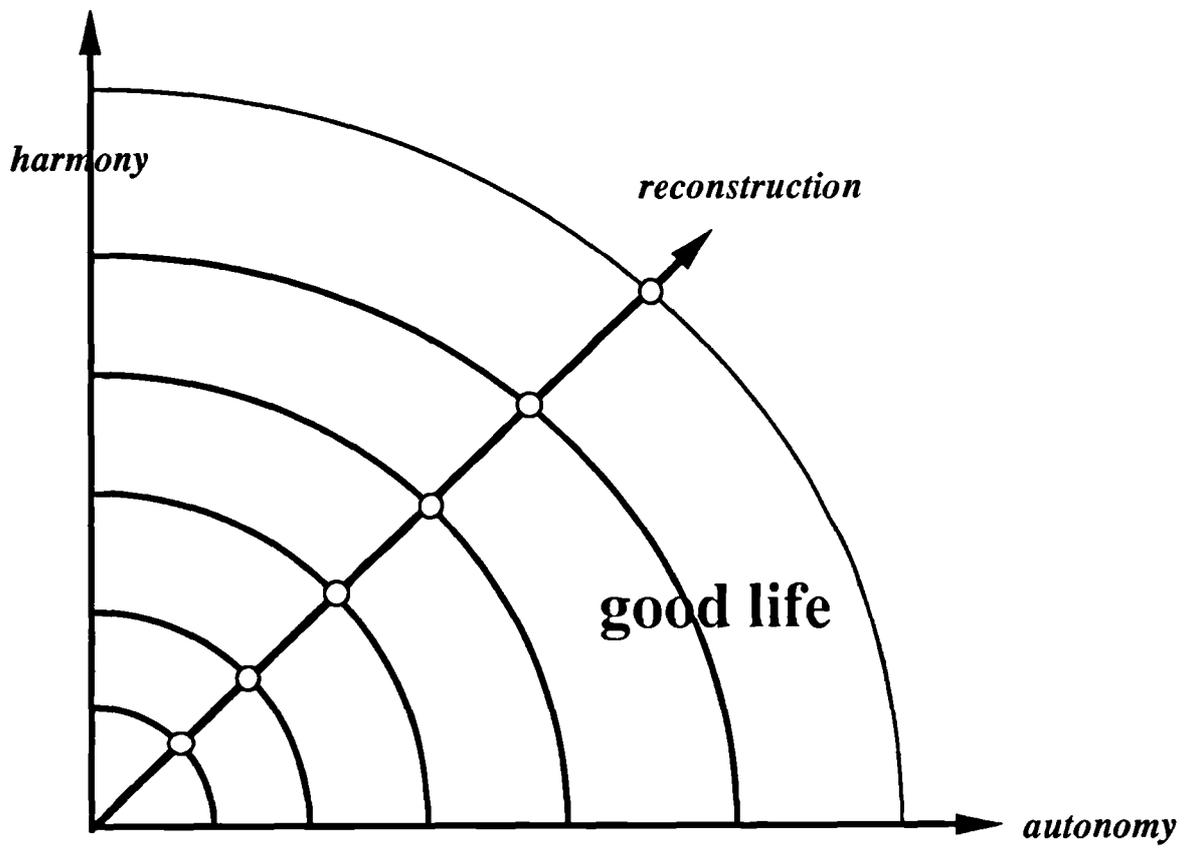


Chart 5.1 The picture of good life

Apart from the characteristics of a good life, the above chart shows a number of notions about a good life in terms of critical thinking. They are:

- a) reconstruction is aimed at approaching to a good life;
- b) a good life is enlarged gradually with the increase of the range and degree of harmony and autonomy; and
- c) the profit point, which is the short cut towards a good life, is indicated by the balance of autonomy and harmony.

According to the above notions and characteristics of a good life, critical thinking marks the signpost of a good life. In other words, critical thinking is the signpost of autonomy, harmony and reconstruction. Critical thinkers employ the approaches of dialectical and communicative action to reconstruct the rationality of a good life via self-realisation, self-reflection and self-actualisation. Habermas in his *Moral Consciousness and Communicative Action* confirms the function of critical thinking by showing that self-reflection and rational argumentation in communicative action are the guardian of rationality (Habermas; Lenherdt & Nieholsen (trans.), 1990, 15).

The criteria for either harmony or autonomy must be both qualitative and

quantitative, though a good life is depicted geometrically in the above chart. According to the nature of critical thinking, the criterion for autonomy is human intelligence and wisdom, while that of harmony is happiness. But the argument about the quality and quantity of happiness, intelligence and wisdom are another story, which will not be discussed here. Instead, Habermas' idea of consensus, i.e. quasi-rationality (Habermas; McCarthy (trans.), 1984, 1987), will be temporarily adopted as the criterion for either quality or quantity of intelligence, wisdom and happiness, because the rationality of such a good life must be reached via communicative action in which the individual exercises his critical thinking, i.e. skepticism, reflection, emancipation and reconstruction. Self-reflection is the hallmark of autonomy, while harmony should be established through communicative action. In this way, a happy and intelligent life, being the very good life critical thinkers are searching for, can be constructed.

III. Critical thinking is significant for a good life

The final task of this chapter is to make an appraisal for such a good life, which is established through critical thinking. The value and significance

of critical thinking, in terms of methods and functions, for a happy and intelligent life will be justified.

There are two approaches to justify the value and significance of critical thinking for such a good life. One is showing the functions of critical thinking for a good life; the other is showing the methods critical thinkers employ for reconstructing such a good life.

First, the functions of critical thinking for such a good life are shown from its characteristics of emancipation and reconstruction. According to the characteristics of critical thinking, emancipation and reconstruction must be grounded in autonomy. Making one's life significant is a way to show autonomy because of self-identity. Also, it is the force of self-identity that draws one into emancipation and reconstruction. Therefore, when we speak of good life, we might question what is the right way to live and what things are most important and significant for life. In this sense, a good life should basically be significant either for the person or society.

Self-identity reveals the significance of an autonomous person. Psychologically, one needs self-identity to make sure of his own achievements and his value for his community, while self-identity needs

self-realisation, self-reflection and self-actualisation to point out the direction of individual development. G. J. McCall cuts across self-identity by a distinction into cognitive and judgmental self-appraisal (McCall, in Mischel (ed.), 1977, 280). He holds that self-identity cannot be isolated from either person or society. This implies that self-identity might harmoniously integrate individual life with social life. McCall says,

we have touched on two senses of identity in relation to self:

- 1) social identity (mask, character), framed in terms of response to the question, "who am I?" and ultimately glossed as role-identity;
- 2) personal identity, framed in terms of personal integrity and continuity across role-performances, and glossed as the person's adaptively organised *prominence hierarchy* of role-identities. (McCall, in Mischel (ed.), 1977, 280)

A scheme, showing the framings of the person and a good life, will be illustrated as follows, in order to complement McCall's analyses, and clarify the relation between the autonomous self (a critical thinker) and a good life.

Table 5.2 The framings of person (self) and a good life

<i>good life</i> ***** <i>self</i>	person		culture social
cognition (self-realisation)	<i>content</i>	personal knowledge	knowledge about culture & society
	<i>function</i>	integration	understanding & interpretation
judgment (self-reflection)	<i>content</i>	self-reflection	reflection on culture & society
	<i>function</i>	location	communication
Action (self-actualisation)	<i>content</i>	personal potential	a desirable ideal
	<i>function</i>	synthesization and construction	equilibration

* The meanings of person, social and culture are the same as in ch. II

The above table illustrates that private life (individual-individual) and a public life (individual-others) are coordinated by the person. With personal-knowledge and self-realisation, the person performs the functions of integration, understanding and interpretation; with self-reflection, he fulfils the functions of location and communication, i.e. the location of one's value system, and communication being to interact with others' value systems. Then, with self-actualisation, the person constructs an intelligent, happy and harmonious life through the synthesis of personal potentials and a desirable ideal through self-realisation and self-reflection. The equilibrations of person-society and of person-culture are executed during the process of self-actualisation.

In this sense, a good life implies that harmony must be involved in the relation between private life and public life, between person and person, between person and society, and between person and culture. As Trigg claims, "it is not enough to have one's own private rule" (Trigg, 1988, 156); a good life must be involved in social life. Therefore, three dimensions of life - culture, society, and person - need to be considered to throw some light on the right way of life.

According to Habermas, the relationship among culture, society and person

is the Three-in-one, which is explained as follows:

in the relation of culture to society, structural differentiation is to be found in the gradual uncoupling of the institutional system from worldviews; in the relation of personality to society, it is evidenced in the extension of the scope of contingency for establishing interpersonal relationship; and in the relation of culture to personality, it is manifested in the fact that the renewal of traditions depends more and more on individuals' readiness to criticise and their ability to innovate. (Habermas; McCarthy (trans.), 1987, 146)

From Habermas' viewpoint, a good life must be established on the ground of the harmonious relationship between culture, society and person. The elements of a good life, both autonomy and harmony, should be taken as the signposts of the right way to live, not only in personal life but in social life as well. In other words, the right way to live should be concerned with both social life and individual life. Therefore, the way towards autonomous harmony must count on the tasks of critical thinking, i.e. skepticism, reflection, emancipation and reconstruction.

According to the characteristics of critical thinking, skepticism, reflection, and emancipation are involved in reconstruction. Thus, in order to keep reconstructing a good life, emancipation, which is grounded in skepticism

and reflection, should be followed. Deutsch noted that "in actual life when we meet a situation of power, of force, we react to it, we protect ourselves from it, we might even act forcefully in turn" (Deutsch, 1979, 36). This claim implies that emancipation from tradition, distortion or self-deception might become an indispensable process towards an autonomous life.

Freedom is a precondition of emancipation. As discussed, freedom constitutes the foundation for autonomy. Without freedom, autonomy is empty. Therefore, a loss of freedom must be recognised and overcome, if we would like to live autonomously. In other words, in order to struggle for autonomy, one must examine whether one's freedom is fettered by authority. In this sense, keeping exercising critical thinking must be significant for a good life. Losing one's freedom can result from two acts: from the obedience of tradition and the legitimation of bureaucratisation; and from the habituated individual.

Emancipating oneself from authority might, on the face, conflict with harmony. However, if it can be assumed that one can reflect upon one's ideology and sincerely come to understand the opposite notion, then the opposite point of view can be respected, and valid positions will be tolerated. In this way, to be autonomous will not become a hindrance but

an assistance in seeking harmony.

In contrast, autonomy works in cooperation with harmony for a good life. According to the scheme of autonomy, as analysed, three modes of autonomy, i.e. extrinsic, instrumental and romantic autonomy are exercised through self-realisation, self-reflection and self-actualisation. Therefore, self-actualisation will not be arbitrary, when one's potential is fulfilled, because of self-realisation and self-reflection. In this sense, only an autonomous person can help himself to locate or construct the rationality of human development, and only rational argumentation through self-realisation, self-reflection and self-actualisation can successfully challenge the conflicts between the individual and the individual, the individual and society, and the individual and culture. In a word, a harmonious but autonomous life is constructed due to the functions of the self.

A good life must not detach autonomy from harmony of the individual and society. That is, an autonomous person must be capable of dealing harmoniously with the public life and private life. Lindley stresses the function of autonomy for individual life, when he claims that "a distinguishing feature of the values of liberal democracy is that individual

autonomy is regarded as of vital importance - not just as a means to further ends, but for its own sake - as a constituent of human happiness or well-being" (Lindley, 1986, 115). Also, he augments the notion about autonomy by extending the function of autonomy from person to society. He says that "a prime goal of liberal democracy is to produce a society composed of autonomous citizens who would work and play productively and co-operatively, motivated by their individual conceptions of a good life" (Lindley, 1986, 115). In other words, a good life must be grounded in individual autonomy and within the harmony between the individual and society.

Critical thinking is indispensable for reconstruction a good life. Inquiring and reflecting upon social structures are the starting processes of reconstruction. This implies that skepticism, reflection and emancipation cannot necessarily be separated from reconstruction. Also, it reveals the significance of reconstruction: a continuous construction. Here the term 'reconstruct', borrowed from Habermas, is used to focus on the developing nature of a good life. According to Habermas, "reconstructions undertaken with philosophical means also retain a hypothetical character; precisely because of their strong universalistic claims, they are open to further, indirect testing" (Habermas; McCarthy (trans.), 1987, 399).

Individual development, being influenced by the circumstances around one, viz., moral, political and social circumstances (legitimation), must be reflected upon, in order to be open to further reconstruction. In this way, an emancipated society will be expected. As Habermas points out, "the decentralisation of world understanding and the rationalisation of the lifeworld are necessary conditions for an emancipated society" (Habermas; McCarthy (trans.), 1984, 74). Similar to Habermas, White confirms that the social structure, like an unquestionable authority, needs to be reflected upon (White, 1991, 100).

Reflecting upon social structures is a hard task. It needs to be done by an autonomous person with critical thinking. As Trigg warns, tradition, like self-deception, "is always a puzzling phenomenon but it represents a genuine part of human experience" (Trigg, 1988, 135). Therefore, an individual must conduct himself in an autonomous way, such as being "suspicious of all appeals based on authority instead of reason and ready to give his own evidence and his own reason for his own opinions" (Chapman-Taylor, 1968, 16). Apart from that, autonomy must be in company with responsibility. Habermas explains,

only responsible persons can behave rationally. If their rationality is measured by the success of goal-directed interventions, it suffices to require that they be able to choose among alternatives and to control (some) conditions in their environment. But if their rationality is measured by whether processes of reaching understanding are successful, recourse to such capacities does not suffice... only those persons count as responsible who, as members of a communicative-community, can orient their actions to intersubjectively recognised validity claims. (Habermas; McCarthy (trans.), 1984, 14)

Responsibility is grounded in self-reflection. Merleau-Ponty emphasises self-reflection on one's ability which "is able to be beyond the created structures in order to create others" (Merleau-Ponty, 1967, 175). Giroux goes further to bring Merleau-Ponty's idea of self-reflection into the reflection upon society, by pointing out that "at the level of understanding, critical thinking represents the ability to step beyond commonsense assumptions, to be able to evaluate them in terms of their genesis, development, and purpose" (Giroux, 1981, 570), and that

critical thinking becomes a mode of reasoning that, as Merleau-Ponty points out, represents the realisation that "I am able" meaning that one can use individual capacities and collective possibilities "to go beyond the created structure in order to create others." (Giroux, 1981, 570)

Responsibility to oneself is shown in the way that the capacity of reflection of the subject goes beyond his irrationality, e.g., authority, ideology, self-deception etc. Habermas confirms this possibility and function of self-reflection by claiming that

anyone who systematically deceives himself about himself behaves irrationally, but one who is capable of letting himself be enlightened about his irrationality possesses not only the rationality of a subject...; he also possesses the power to behave reflectively in relation to his subjectivity and see through the irrational limitations.... (Habermas; McCarthy (trans.), 1984, 21)

In sum, the fetters of culture, society and person can be emancipated through critical thinking, because of the function of autonomy. An autonomous person can avoid being dominated through self-realisation, self-reflection and self-actualisation. In addition, an autonomous person can reach a harmonious relationship on the basis of understanding and through communicative action.

Another significance of critical thinking for a good life is shown in the methods which critical thinkers employ to seek for an autonomous and harmonious life. The key methods critical thinkers employ stem from

reflective forces. They are: dialectic with skepticism, rational argumentation or communicative action, and imagination-with-reason.

In the broadest sense, "dialectic" is involved in two dimensions of thinking: space and time. That is the reason why Chinese philosophers can bridge the way of the Heaven with the Earth. (As can be seen from the works of Confucianism, Taoism, which were quoted in chapter two.) Also, that is the reason why empirical, rationalistic thoughts are co-existent in the human activity.

The contributions of dialectic method for a good life can be shown from its function in struggling for autonomous harmony. For example, it is through dialectic method that critical thinkers can be free from subservience of authority. Also, it is through dialectic method that man combines passion with intellect; combines emotion with reason. Critical thinkers through dialectical method can emancipate themselves from the fetters of culture, society or person because of its synthesised function. Through dialectical method, critical thinking helps men to enlarge the scope of thinking by understanding how our own cherished prejudices or pseudo-rationality are distorted and dominated.

Another method critical thinkers use, important for a good life, is communicative action. According to the sketch of a good life, men through communicative action overcome the conflict between grounding in a rational way and an emotional way, no matter whether an evolutionary or revolutionary reconstruction is taken. In order to guarantee that the way men take is rational enough, communicative action is more profound than good reasons. As Habermas claims, "an argumentation contains reasons or grounds that are connected in a systematic way with the validity claim of a problematic expression" (Habermas; McCarthy (trans.), 1984, 18). Further, he stresses that "the strength of an argument is measured in a given context by the soundness of the reasons" (Habermas; McCarthy (trans.), 1984, 18). In addition, an argumentation is involved in inquiry about both the rationality of a participant and the validity claim in and among other thinkers which is taken as the rule of the argumentation (Habermas; McCarthy (trans.), 1984, 18). In order to highlight the rational foundation of communicative action, Habermas distinguishes those who are deaf to argument from those who are open to rational argumentation. He analyses,

anyone participating in argument shows his rationality or lack of it by the manner in which he handles and responds to the offering of reasons for or

against claims. If he is open to argument, he will either acknowledge the force of those reasons or seek to reply to them, and either way he will deal with them in a rational manner. If he is deaf to argument, by contrast, he may either ignore contrary reasons or reply to them with dogmatic assertions, and either way he fails to deal with the issues "rationally". (Habermas; McCarthy (trans.), 1984, 18)

Also, Habermas praises the functions and profit of argumentation for enlightened rationality by claiming that "argumentation makes possible behaviour that counts as rational in a specific sense, namely learning from explicit mistakes...[to] overcome self-deceptions and difficulties in comprehension ..." (Habermas; McCarthy (trans.), 1984, 22).

Argumentation is a method for reaching understanding and for emancipating men from distorted ideology by offering rational and accepted evidence or reasons through self-reflection. That is the essence of communicative action: a method for realisation and reflection on person, society, and culture. This essence makes communicative action the foundation for argumentation because of the function of informal logic. As Habermas explains,

the logic of argumentation does not refer to deductive connections between semantic units (sentences) as does formal logic, but to nondeductive

relations between the pragmatic units (speech acts) of which arguments are composed. Thus, it also appears under the name of informal logic. (Habermas; McCarthy (trans.), 1984, 22)

According to the nature of argumentation which Habermas mentioned, communicative action is also an exercise of rational argumentation in a situation, which is rational and autonomous without coercion. In this way, rational agreement can be reached through communicative action. Therefore, rational consensus can still be reached, even though uncoerced circumstances are difficult to find, , because the individual must reflect upon himself through offering reasons for or against others' and his own ideas or value judgments during communicative action. In a word, an autonomous harmony can be reached through communicative action.

The third crucial method of critical thinking is imagination with reason, which has been used successfully, especially by critical thinkers within the first mode of critical thinking. (Its function can be seen from chapter three.) Critical thinkers within the second mode of critical thinking, left little room for the imagination. Consequently, reason without imagination offers the possibility for dogmatic, unreflected authority. Some philosophers in the nineteenth and twentieth centuries, e.g., Hegel, the existentialists, the Frankfurt School etc., produce a reaction to instrumental

reason. As Worgul claims, "the radical vision...in the nineteenth century would open a pathway for investigations into the imagination" (Worgul, in McLean (ed.), 1991, ch. vi, 3).

The power and necessity of imagination to create a new leaf for human beings has been claimed in chapter three. Here, imagination as a method for a good life will be tackled.

Men create the law for human life through imagination with reason, while the law will become a dominator of life. In Chinese thought, the idea of Heaven (the Way) is like that of God in Western culture. No matter whether Heaven or God is viewed as the arbitrator or the symbol of reason etc., "He" was humanised via imagination. However, if with imagination without reason, the idea of Heaven or God would not be universally accepted and cannot last for such a long time, because imagination without reason may lack the logical system of reason.

Imagination possesses the power of creation. "Imagination can bring together the flow of disparate sensations" (McLean, 1991, 14), it can also produce something totally different from its previous fundamental elements. (This imagination is imagination-with-reason in this thesis.) This

can also be seen from *To De Ching* . In *To De Ching*, Lao-tzu said that "the Tao produces "The One". "The One" produces "The Two". "The Two" produces "The Three". "The Three" produces all things." (*Tao De Ching*)

The function of imagination-with-reason can also be seen from the sketch of a good life. A good life can be established by two ways: partly by human knowledge about the world, including the knowledge of culture, society and person; partly through human imagination to lead men to an ideal. Actually, it is through imagination-with-reason that a good life can be sketched out, because imagination-with-reason is based on human background knowledge; and it is ultimately led by a priori Being.

Farrelly, standing on the ground of E. Erikson's theory of developmental psychology, characterises human flourishing by "absolute transcendence in the sense of an orientation to constitute themselves freely by their relation to an absolute horizon of being and value" (Farrelly, in McLean,(ed.), 1992, ch. 1, 1). In this sense, though Farrelly, as a priest, brought human flourishing into relation with the Ultimacy, the Sacred or God, his idea of human flourishing is still significant in manifesting a perfection of human beings, viz., an ideal type of a good life. It is in this way that

imagination-with-reason leads men to an ideal of life.

In sum, in order to construct an autonomous and harmonious life, the methods of dialectic, communicative action and imagination-with-reason are needed. Critical thinking as a means for emancipation and reconstruction is necessary for a good life. Also, critical thinking as the end of self-realisation, self-reflection and self-actualisation is indispensable for the reconstruction of rationality or an ideal of a good life.

IV. Conclusion

Men need to emancipate themselves not only from cultural and social dehumanisation, but also from individual depersonalisation. As analysed, this task is undertaken by the self. Therefore, autonomy must be valued for a good life. More than that, autonomy must work effectively and successfully not only in the individual aspect of life, but also in the life of interaction with others. In light of the contemporary problems such as, dehumanisation, depersonalisation and constraint by authority, a good life for human beings nowadays must be a dialectical crystallisation of culture, society and person, which will be established through critical thinking.

Dehumanisation and depersonalisation narrow the horizon of understanding about the relations of the individual and culture, the individual and society, and the individual and the individual. The dehumanisation of culture and society, and the depersonalisation of the individual have widened alienation; and the lack of self-realisation and self-reflection prevents the possibility of self-actualisation. Hence, critical thinking will be suggested to escape from the problems of dehumanisation and depersonalisation.

One way for the solution of these problems is to awaken our critical thinking. At the very least, two actions need to be taken: a) to move from a passive posture to active searching; and b) to build up the horizon of understanding in many dimensions. In this way, alienation, e.g., dehumanisation and depersonalisation, will be attacked by critical thinking. This is an achievement of self-realisation. Further, man through *self-reflection* will reconstruct his own good life, grounded in self-realisation and self-actualisation; while through *communicative action* man is concerned about a good life of others. These are the functions and value of critical thinking for a good life.

Therefore, education, in its broadest range, should be an art of making people critical, and the government should be a crucial supporter for

teaching critical thinking. Then, under an ideal teaching situation, including an open culture, a communicative and open-minded society, an autonomous person will be able to plan a good life - a life with happiness and intelligence. If this is the case, primary school education and teachers education must be put on the top of the list for educational innovation, in terms of teaching for critical thinking, because of their leading place in human development.

Chapter VI

**THE IMPLICATIONS OF CRITICAL THINKING
FOR EDUCATION(I):
INDOCTRINATION OR EDUCATION**

**I. Reflecting upon the criteria of indoctrination: a critical
comment**

A. Content

B. Method

C. Intention

II. Autonomy as a fundamental criterion

Chapter VI

THE IMPLICATIONS OF CRITICAL THINKING FOR EDUCATION(I): INDOCTRINATION OR EDUCATION

It was shown in previous chapters that the dysfunction, dehumanisation and depersonalisation of education in Taiwan result from non-critical thinking. Indoctrination in education is one such case. In this chapter I shall apply the concept of critical thinking to education, by distinguishing indoctrination from education, so that the priority of teaching for critical thinking can be sorted out.

The criterion for indoctrination, in counter point with the characteristics of critical thinking, will be set up in this chapter. The argument will be that distinguishing indoctrination from education must be grounded in the essence (inner characteristic) of critical thinking, i.e. autonomy; and autonomy will thus be the fundamental aim for teaching critical thinking. Varied criteria of indoctrination will be examined first.

I. Reflecting upon the criteria of indoctrination: a critical comment

The distinction between indoctrination and education is still vague. Some take the intention of teachers as the criterion for indoctrination, e.g., White (White, in Peters (ed.), 1970⁵), Gregory and Woods (Gregory & Woods, in Snook (ed.), 1972b, 179), while some think that indoctrination can occur without conscious intention, e.g., Wilson (Wilson, in Snook (ed.), 1972b). Others take teaching content or method as the criterion of indoctrination, e.g., Danto, Cooper and Wilson (Danto, 1968; Cooper, 1973; Wilson, in Snook (ed.), 1972b). Some, like Snook, Barrow and Woods take all of these as criteria for indoctrination (Snook, 1972a, b; Barrow & Woods, 1982², 63-77). However, whether these criteria are sufficient for distinguishing education from indoctrination is questionable and needs to be

analysed further.

The meanings of indoctrination are concerned with the criteria for indoctrination, which are multiple. The meanings of indoctrination in the Oxford Dictionary are: "a) to put ideas into (someone's) mind; or b) to instruct or to imbue with partisan or sectarian opinion, points of view, principles..."

Other definitions of indoctrination are given by scholars. For instance, Kilpatrick writes that "indoctrination is to implant doctrines which are to be held uncritically" (Kilpatrick, in Snook (ed.), 1972b, 4) (which merely moves the problem of definition to a different word) ; similarly, Snook assumes that indoctrination is "to inculcate doctrines" (Snook, 1972a, 7). For Wilson, indoctrination is efforts "to take over his [a person's] personality in a much more radical way" (Wilson, in Snook (ed.), 1972b, 22). Also, Green holds that indoctrination is "to be frequently viewed as a method of instruction" (Green, in Snook (ed.), 1972b, 25). Gregory and Woods claim that indoctrination is "to try to get him [the person] to believe that a proposition *P* is true, in such a way that nothing will shake that belief" (Gregory & Woods, in Snook(ed.), 1972b, 179) . A number of

similar definitions of indoctrination are offered by, for instance, T. C. Hatcher & L. G. Erickson (1979), and J. White (1970⁵).

However, the demarcation between indoctrination and education can hardly be grasped from these definitions. These definitions cause problems, either because of their insufficiency or because they are too broad to locate the borderline between indoctrination and education. For example, problems such as whether indoctrination exists only in education, or also in different areas, e.g., religion, politics etc., are not clarified. Nor is it clear whether the term 'indoctrination' can be applied to 'good' activity in education as well as bad.

Indoctrination is associated not only with the educational dimension, but also with moral, religious and political dimensions. Indoctrination seems to belong to a family of concepts such as education, instruction, training, teaching and learning. As Snook claims, indoctrination leads philosophically into questions about "how we ought to treat people and the status of knowledge claims", while educationally, "it opens up discussion of the rights of students, parents and teachers; the possibility of natural education; and the part that society or culture is entitled to play in

determining the curricula of schools" (Snook (ed.), 1972b, 1).

Similarly, Green claims, "indoctrination, nevertheless, has a perfectly good and important role to play in education... Like the development of attitudes, indoctrination may be useful as the prelude to teaching" (Green, in Snook (ed.), 1972b, 45, 117). However, Green's claim is true only if indoctrination and education are not incompatible.

Thus in order to clarify the concepts 'indoctrination and education', criteria for distinguishing indoctrination from education need to be analysed.

Snook suggests that there are "four possible criteria of indoctrination: method, contents, consequences and intentions" (Snook, 1972a, 44-5). Here, I shall partly borrow from his suggestion to investigate the adequacy of the criteria of indoctrination. Consequences, (in fact, also process), are in this thesis thought to be involved in teaching contents, methods and teachers' intentions, while educational aim is assumed to be involved in teaching contents.

Therefore, in this thesis, three key criteria will be discussed: content, method and intention. I will focus on educational activity, to argue that education is and should be incompatible with indoctrination, in that children lack ability for autonomy. It will be argued that autonomy is a fundamental criterion for distinguishing education from indoctrination.

A. Content

First, I shall take two items from the textbook of the *Social Sciences* syllabus in the primary school in Taiwan as examples around which to discuss the insufficiency and non-necessity of the condition of content for indoctrination. It will be argued that indoctrination may not be taking place even though the doctrine is introduced to children (insufficiency); and in contrast, that children may be indoctrinated even though the teaching content does not underline the doctrine (non-necessity).

The criterion for the indoctrination of content will be analysed with reference to these quotations. My argument will be that content of a particular type, e.g., political propaganda, is neither a sufficient nor a necessary condition of indoctrination. Yet, the content of a particular type

may produce indoctrination, where the intention of the content, either showing on the face of the content or implicit in it, involves the attempt to constrain or dominate the way of children's thinking. This argument will be justified through investigating two contents which are extracted from the textbooks of Social Sciences for primary schools in Taiwan. These contents will be described first.

One of the items in the syllabus for Social Sciences (A) praises the contributions of the Three Principles of the People. It says,

- (A) The Three Principles of the People is the principle for national reconstruction and for the people. Although recently there have been wars or battles in China, nowadays and fortunately, the Republic of China in Taiwan founded by Sun Yat-sen and led by Chiang Kai-shek, has managed achievements not only in the economy, but also in society, and people work and live in peace and wealth. The goal for the future is to implement the Three Principles of the People, instead of Communism as on the Mainland. Then, the unified New China, which is wealthy and powerful, can be naturally reconstructed. (The National Institute of Compilation and Translation, *Social Sciences*, vol. xi, 1990, 71)

The other extract (B) describes the seventy-two martyrs who sacrificed

their lives in an abortive uprising against the Manchu Government, which took place in Canton on March 29, 1911. The revolutionary spirit of March 29 is exalted in the contents. It sketches how

(B) all members of the revolutionary political party who took part in the action of revolution were full of devotion to this action: some had left their last writings to their parents and wives. Those who were captured by the Manchu Government sacrificed their lives for the principle of overthrowing the Manchu Government, after they failed to persuade the officials of the Manchu Government to give up their political power. The revolutionary spirit of the seventy-two martyrs raised the morale of the people, so that the revolutionary foundation for the reconstruction of the New China could have been established then. (The National Institute of Compilation and Translation, *Social Sciences*, vol. XI, 1990, 41)

The contents of (A) can be viewed as doctrine. According to Snook, "an indoctrinator wants students to end up with false ideas" (Snook, 1972a, 7). Similarly, White holds that "if indoctrination has to do with content, then content must refer to the fact that the beliefs to be indoctrinated must form part of an ideological system, in the broader sense" (White, in Snook (ed.), 1972b, 124). In this sense, political propaganda, being an ideological system, can be viewed as one particular type of content which might

produce indoctrination.

Such content might produce indoctrination, because it might narrow the range of children's thinking. The schools impart this content to children not because of its contribution to children's development, but because of the political interest. It is clear that this doctrine constitutes part of history of the KMT (Nationalist Political Party). In order to protect the interest or image of the political party, children's questions about the adequacy of political propaganda will not be encouraged, even if they are not prohibited. In contrast, it is taken for granted that 'making' children believe in this propaganda is measured as a successful 'teaching', because it is in accordance with the official aim of education. In such a situation, children will be asked to learn the contents by heart, rather than to find evidence for or to argue against them. This is a case where the particular type of content produces indoctrination. Yet, indoctrination is produced not only because of such a content, but also because of the methods employed and of the fact that the content is involved with the intention to dominate children.

Next, it will be argued that content which constitutes political propaganda

is not a sufficient condition of indoctrination. Such contents do not always indoctrinate children. In other words, indoctrination would not occur even if teachers use such contents, if children can think over questions which call for reflection, or if children are capable of discussing their own opinions freely and rationally. Taking the extract (A) for example, pupils can think critically about questions such as: why are Sun Yat-sen and Chiang Kai-shek necessary for current achievements in Taiwan and in what way; why can the Three Principles of the People unify Taiwan with the Mainland, and reconstruct a wealthy and powerful New China; why are there high achievements in the economy rather than in the politics in Taiwan; what is the weakness in contemporary Taiwanese society; what might have happened, either if the R.O.C. had been established without Sun Yat-sen and Chiang Kai-shek, or if the R.O.C. were not established? After reflecting upon such questions, political propaganda in the contents will be analysed and criticised, before it is accepted. Therefore, content which constitutes political propaganda is not a sufficient condition for distinguishing education from indoctrination.

In contrast, in this way, children are not forced to accept official value judgments. Rather, they will form their own value systems through

thinking rationally, e.g. by looking for evidence against which to test political propaganda. This is an example in which the gap between teaching and consequence occurs. Yet, this gap occurs not because of the failure of teaching, but because children's ability of autonomy avoids the indoctrination of content and even the indoctrination of teaching method.

After that, it will be argued that falsity of content is not a necessary condition of indoctrination. The contents in the subject matter of (B), quoted above are not a belief but, relatively, a fact. Fact is assumed as 'true' knowledge here. However, this content can be used to indoctrinate children, in the belief that the KMT is worthy of support, because of their significant contributions to the establishment of the R.O.C. In other words, the contents can be used as evidence to claim that anyone who tries to overthrow the Government of K.M.T. is mad, like the officials of the Manchu Government, or even worse, is a betrayer of the State, and immoral. This is an indoctrination by content in which political authority is confirmed not through rational argumentation, but through the usage of contents. Therefore, even if the content is true knowledge or content whose truth or falsity is uncertain, indoctrination can proceed through it. In short, content even when it is not official doctrine or political

propaganda cannot guarantee that pupils will not be indoctrinated. In this sense, falsity of content is not a necessary condition for distinguishing education from indoctrination.

B. Method

Method has been taken as a criterion for distinguishing teaching from indoctrination. For example, Nagai claims that "the real question, therefore, as to the nature of teaching as distinct from indoctrination is not about the contents but about the ways in which it is taught and defended in the classroom" (Nagai, 1976, viii). Yet, Nagai does not make clear about his argument whether irrational method is a sufficient or necessary condition for indoctrination. Some scholars try to add other criteria to the criterion of method so as to clarify the distinction between indoctrination and education.

For instance, Barrow and Woods connect the criterion of content with method to distinguish education from indoctrination. Therefore, they claim that "not any way of imparting any kind of belief is *ipso facto* indoctrination" (Barrow & Woods, 1982², 64). Analogously, although

Cooper suggests "method or manners would be plausible candidates [as criteria of indoctrination]" (Cooper, 1973, 52), he himself has noticed that "my argument does not show that method or manner must always be the relevant criterion; that would need further argument. It shows only that some other criterion [i.e. other than intention] must be employed, in order to fix moral responsibility" (Cooper, 1973, 52).

Here my argument will be that non-rational method is not a necessary condition, but if used over the whole process of schooling, it is a sufficient one, because it can be taken as a tool for indoctrination. Before moving to this argument, the term 'irrational method' will be clarified.

In general, any method used to restrain the freedom of thought is non-rational, such as: discouragement to giving one's own reaction; restraint on debating the issues; and asking that people accept information without questioning evidence. Irrational method will produce indoctrination. As Nagai points out, "in regard to method, indoctrination utilises non-rational means, [whereas] teaching, on the other hand, utilises open examination, disinterested exchange of ideas and unrestricted critical analysis" (Nagai, 1976, 14). In contrast, giving children room for

reaction, debate and discussion etc. can be conceived using rational methods.

Irrational method which is grounded in a tyrannical way produces indoctrination, because it restrains the development of children's ability for autonomy. As Snook points out "if a teacher tries to prevent a pupil from acquiring any backing for his beliefs other than the say-so of an irrelevant authority, he is not teaching but is doing something else, for example, indoctrinating" (Snook, 1972a, 20), and, in contrast, "teaching requires us [teachers] to submit our reasons to the students for their critical evaluation" (Snook, 1972a, 20).

The argument that irrational method is not a necessary condition of indoctrination but a sufficient one will be justified through examining the contents which are extracted from the Textbooks of Social Sciences for primary schools in Taiwan. In other words, the contents (A) and (B), which were described, will be used to show that irrational method will produce indoctrination. On the other hand, another extract (C) will be used to argue that rational method, e.g., uncoerced thinking and debate, can produce indoctrination.

As mentioned, children in Taiwan are asked to memorise the contents in textbooks, like content (A) and (B), as preparation for the examination. In such a situation, memorisation rather than the heuristic method is preferred. In this way, memorising all materials in textbooks and then having them copy back during the examination is taken as the ultimate goal of schooling. Children are expected neither to inquire the truth or falsity of such materials, nor to reflect upon the relationship between textbook 'knowledge' and their lives. Moreover, inquiry and reflection will be discouraged. Indoctrination occurs, because irrational methods as such do prevent children from establishing their own value system. Instead, such irrational methods encourage children to imitate rather than to think, and thus indoctrination is produced. Therefore, irrational method is a sufficient condition for indoctrination.

However, the method of indoctrination (non-rational methods) may also be employed in education. As Wilson points out, "we should certainly have helped the child in the direction of rationality, but at the same time our methods would have been far from ideally rational" (Wilson, in Snook (ed.), 1972b, 21). In general, given that irrational methods are used

during the whole process of schooling, then they will lead to indoctrination. On the other hand, if irrational methods are used in a particular episode, then indoctrination may not be produced. Therefore, taking irrational method as a criterion for indoctrination, we should also consider other conditions which are involved in the process of teaching. That is, teaching should be viewed as a whole process rather than an isolated activity of teaching and learning.

In acknowledging this, the claim that irrational method is a sufficient condition needs to have the condition of the process of teaching added to it. That is, irrational method will produce indoctrination, in two circumstances: either when it is used in whole process of teaching activities; or when it matches the intention of indoctrination. The relationship between content, method and intention will be discussed later on.

On the other hand, whether irrational method is a necessary condition of indoctrination needs to be further explained. The content (C) will be used to argue that rational method can also produce indoctrination. This content describes the situation of people's life in Taiwan during the period of Japanese occupation:

(C) The Taiwanese lacked not only the freedom of speech, but also the freedom of meeting, during the period of Japanese occupation. Further, the Japanese Government in Taiwan did not offer a guarantee for Taiwanese lives and properties. Life for the Taiwanese was very hard, so that the Taiwanese rebelled continuously against the Japanese Government. (The National Institute of Compilation and Translation, *Social Sciences*, vol. VII, 1990, 102)

Indoctrination can be produced even though rational methods are used when the above contents are taught. For example, if children are encouraged to discuss merely the tyranny of the Japanese Government alone, but they are restrained from reflecting upon the political and social weakness of the KMT Government, then a one-dimensional way of thinking will be formed. Consequently, ideology especially negative ideology, will be rooted in children's value system. In this sense, rational method will produce indoctrination. Therefore, irrational method is not a necessary condition for indoctrination.

From the above discussion, any method, irrational or rational, can be used as a tool for indoctrination. This is the reason why teaching activities may mix education with indoctrination, in that rational methods may be used for

training, drill or conditioning, while irrational methods may be use for instruction. In this sense, teaching or indoctrination will be hard to distinguish by the criterion of method. In this situation, the whole process of teaching needs to be considered. For example, the intention of education which is either shown on the face of the official aim of education or hidden behind it must be examined, so as to distinguish education from indoctrination.

C. Intention

Snook confirms the importance of the intention of education for distinguishing education from indoctrination. Snook claims that "indoctrination only begins when we are trying to stop the growth in our children of the capacity to think for themselves" (Snook (ed.), 1972b, 5). Atkinson stresses the room for thinking in education. He says,

sometimes education is the term opposed to indoctrination, whilst instruction is used for a rather direct sort of telling of people what is, or is not so, a telling that smacks rather of indoctrination than education proper. (Atkinson, in Snook (ed.), 1972b, 55)

For Ryle, whether intelligent powers are developed marks the difference between education and indoctrination. He claims that

a circus seal can be drilled or 'conditioned' into the performance of complicated tricks, much as the recruit is drilled to march and slope arms. Drill results in the production of automatism, i.e. performances which can be done perfectly without exercising intelligence. This is habituation, the formation of blind habits. But education or training produces not blind habits but intelligent powers...Drill dispenses with intelligence, training enlarges it. (Ryle, 1971, 223)

It seems that the aim, intention and consequence of teaching need to be considered, in order to distinguish education from indoctrination. As I claimed, the aim and consequence are assumed in this thesis to be involved in the intention, because they are hard to separate in a teaching activity. Before I move to examine the condition of intention for indoctrination, the relationship will be illustrated in Figure 6.1.

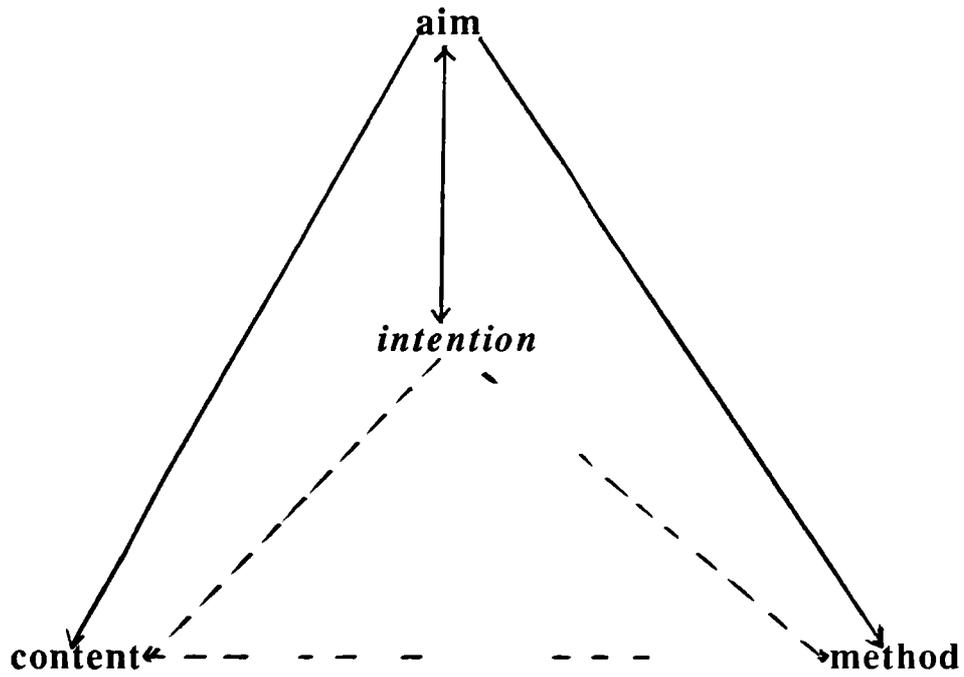


figure 6.1 The relationship between intention, aim, content and method

* '_____': carries direct influence

'.....': carries indirect influence

From the above illustration, intention guides the aim, contents and methods of teaching through either direct or indirect influence. Therefore, teaching should be an intended action, in terms of teachers' intention and the aim of education. In this sense, the intention of indoctrination may also be recognised directly through teachers' intention, or indirectly through the goal of schooling. If the goal of schooling is far from developing children's abilities for self-realisation, self-reflection and self-actualisation, then it will be indoctrination.

Thus, if intention will be taken as a criterion for distinguishing education from indoctrination, it should be involved in educational aim (including consequence), content, and method. In this sense, I agree with White's claim that "the intention is logically tied to the concept of indoctrination" (White, in Peters (ed.), 1970⁵). Similarly, Barrow & Wood's claim that "intention is logically necessary to the concept of indoctrination" (Barrow & Woods, 1982², 69). My argument then is that intention can be claimed as not only a sufficient, but also a necessary condition for distinguishing education from indoctrination.

Snook also tries to set up a clear-cut relationship among varied criteria of indoctrination. He concludes that

method is an inadequate criterion, since it loses its bad connotation and there is no further way of distinguishing good indoctrination from bad...The notion of content is itself vague...(and) to hold that aim, content and method are required would provide a sufficient condition but not a necessary one...Only intention can serve as an adequate criterion for distinguishing indoctrination from education and attempts to link intention conceptually with another factor such as content or method will destroy the delicate balance. (Snook (ed.), 1972b, 153)

Yet, Snook seems to be unable to explain sufficiently the range of intention, so that there is still confusion about what the intention concerns. For example, whether the term 'intention', for Snook, refers merely to the fact that 'teachers are aware what they are doing' or to the fact that 'teachers plan to do something consciously', and whether intention plays a role as the guide of the instructional purpose and method.

Therefore, the concept 'intention' needs to be clarified before the argument that the intention of domination is not only a sufficient but also a necessary condition for indoctrination. That is, whether intention is properly to be

the criterion for distinguishing indoctrination from education is still vague.

For example, Cooper divides indoctrinators into two categories according to their intention: "sincere indoctrinators" and "insincere indoctrinators" (Cooper, 1973, 44). The sincere indoctrinator is one who "himself believes the propositions he is teaching, and who thinks it important that his students should believe them precisely because, according to him, they are true" (Cooper, 1973, 44). The "insincere indoctrinator is one who either does not believe what he is teaching, or at any rate thinks it important for students to believe the propositions for reasons other than their truth" (Cooper, 1973, 45).

However, Cooper disagrees with taking teachers' intention as the criterion for indoctrination. He claims, "the whole approach to indoctrination in terms of intention is being radically misconceived"(Cooper, 1973, 43), and "whatever the merits of the 'intention' approach in general, these cannot be the right definitions [for indoctrination]" (Cooper, 1973, 43).

Also, Wilson argues that it is hard to take intention as the criterion for indoctrination. For Wilson, as for J. White, intention is emphasised at the

level of consciousness, i.e. knowing what one is doing. However, Wilson argues that "it is possible to indoctrinate without knowing that you are indoctrinating [sincere indoctrinators] and it is also possible to try to indoctrinate but fail [for insincere indoctrinators]" (Wilson, in Snook(ed.), 1972b, 19). The former possibility can be viewed as the case of sincere indoctrinators, whereas the latter possibility is the case of insincere indoctrinators (but they may succeed). Cooper therefore claims that White's and Snook's accounts of intention suffer from a failure to distinguish clearly enough between what might be called the 'sincere' and the 'insincere' indoctrinators (Cooper, 1973, 44).

Learning from Husserl's theory, I will claim that the intention of indoctrination is more significant than the performance of indoctrination. As McKenna points out, Husserl's theory of perception "has concentrated on explaining the intrinsic intentionality of a perception, i.e. how, even if its object is not actually present, a perception can be an experience of that object" (McKenna, 1982, 98).

However, it seems to me that the difference in the argument on intention as a criterion of indoctrination between Barrow & Woods, Cooper, and White

lies in whether teachers' intentions are distinguishable. Similarly, for Barrow and Woods, "what causes difficulty in ready acceptance of intention as a necessary feature of indoctrination is the fact that it is not always obviously present" (Barrow & Woods, 1982², 69). They claim that

we are faced here with a distinction between avowed intention (what the indoctrinator *says* he is trying to do) and the real intention (what the indoctrinator is *in fact* trying to do)... In the very nature of the case it is impossible to get clear about real as opposed to avowed intention by asking the teacher. (Barrow & Woods, 1982², 70)

From my viewpoint, intention should be involved in the consciousness of the subject and the performance of the subject. For sincere indoctrinators, their consciousness corresponds with their performance, while for insincere indoctrinators, there is a gap between consciousness and performance. This is a way to distinguish insincere indoctrinators from sincere indoctrinators.

Further, intentional acts can be divided into two modes. As Michael H. McCarthy points out, "intentional acts embody the basic distinction between a subjective intending and an object intended" (McCarthy, 1990, 234). The

subjective intending can be viewed as the experiential consciousness which is the name for the subject's pre-reflexive, non-intentional awareness of himself and his intentional acts, whereas the object intended heightens the conscious presence to the subject (McCarthy, 1990, 234). In this sense, teacher's intention should include intentional action [an insincere indoctrinator] and non-intentional awareness of himself [a sincere indoctrinator]. Anyway, indoctrination [performance] will help the indoctrinator to become aware of his act of indoctrination, no matter whether he was aware of his intention.

Similarly, Lonergan divides intention into two modes: 'the object to the subject...; [and] the subject to himself' (Lonergan, 1967, 226). For Lonergan, conscious occurrences [indoctrination which is made by insincere indoctrinators] like pains, emotions, and intentional acts (subject to himself) differ intrinsically from such nonconscious episodes [indoctrination which is made by sincere indoctrinators] in a person's life as the growth of hair, the circulation of the blood, and the normal functioning of the nervous system (Lonergan, 1957, 320-8). The mode of 'object to the subject' implies phenomenological consciousness, which is object intended, in McCarthy's terms. In this sense, distinguishing

insincere from sincere indoctrinators does not make much sense for identifying indoctrination.

Moreover, avowed intention can be distinguished from real intention. Yet, they are distinguishable neither merely by asking the teacher, nor merely by observing their teaching. The avowed and real intentions can be distinguished in part through examining the information which is collected by asking the teacher and by observing practical teaching. However, the real intention of a teacher must be grasped within the whole context of teaching. The avowed and real intention can be distinguished through a series of actions of verification, e.g., interview, observation, discussion etc., within the whole context. Therefore, it should not be claimed that intention is not a sufficient or necessary condition of indoctrination, just because it is hard to measure.

Meanwhile, the stipulation for education is assumed to be rooted in the nature of autonomy in this thesis. That is, if teachers' intention is directed are intended neither at children's ability for autonomy, nor at children's individual development of reason, then the action teachers take to reach this aim will be viewed as indoctrination. One of the obvious cases has been

shown in the dysfunction of education in Taiwan: where education is taken as the tool for specific interests, e.g., political or economic interest. This is a case where 'educational aim' is against the nature of education, paradoxically, and such an instruction is then implicitly or explicitly aimed at dominating children's thinking. The distinction between indoctrination and education, in terms of intention, can be put into logical forms: a) education is aimed at helping children to acquire beliefs x, y, z, which are true; and b) indoctrination is aimed at making children believe x, y, z, no matter whether they are true or false.

In this sense, indoctrination occurs not only because of teachers' intention of indoctrination, but also because of the dominated intention involved in the aim of the activity of 'teaching and learning'. In principle, a teacher's intention of domination will lead to indoctrination, because with his intention of indoctrination, irrational methods will be used to reach the aim of his teaching. (Of course, there could be another case where a teacher's 'teaching' is aimed at indoctrinating but fails. But this is not the focus of this thesis.) In this sense, intention is a necessary condition for distinguishing indoctrination from education, because intention is tied to aim, content and method.

On the other hand, indoctrination will not occur when teachers themselves intend to enlighten pupils rather than to indoctrinate them. In this situation, teachers will not use any irrational method. Even though teachers misuse irrational methods, the outcome of using irrational methods will help the teacher to be aware of his misusing the methods, which is not what he intends to.

More than that, indoctrination will not occur, because pupils are expected to be or are 'treated' as autonomous. In other words, indoctrination will not be produced if teachers do not intend to indoctrinate pupils, even though non-rational or irrational methods are employed. That is because, as discussed in the previous section, pupils are encouraged to reflect upon what teachers taught and to argue for or against it. Therefore, intention of domination is a sufficient condition for indoctrination.

In my view, whether it is indoctrination is one thing, and whether indoctrination can be successfully implemented may be another. Ideally, consequences should meet with the aim through teaching methods and contents, besides, a teacher should intend to reach the aim with effect.

Therefore, that indoctrination occurs due to the failure of teaching should not be blamed on the failure of teaching, but on teachers' and children's lack of the ability for autonomy. In other words, whether indoctrination can be successfully carried out depends on whether teachers (sincere indoctrinators) are capable of distinguishing education from indoctrination, and then whether they can emancipate themselves from being indoctrinators (both sincere and insincere indoctrinators); and whether children can reflect upon what they have learned.

Instead of stressing teachers' duties, Weber stresses pupils'. He indicates three major duties of students. They are:

- 1) to fulfil a given task in a workmanlike fashion;
- 2) definitely to recognise facts, even those which may be personally uncomfortable, and to distinguish them from his own evaluations;
- 3) to subordinate himself to his task and to repress the impulse to exhibit his personal tastes or other sentiments unnecessarily. (Weber, 1949, 5)

These students' duties remind us that there is no necessary relationship of cause-effect between the process of indoctrinating and its product. Also, it reminds us that teachers and pupils are 'human beings' rather than

machines, who can think rather than be completely controlled. In this sense, the tasks of self-realisation, self-reflection and self-actualisation, reveal the significance in avoiding one being an indoctrinator or indoctrinated.

To summarise, the particular type of content is neither a sufficient nor a necessary condition for indoctrination. Irrational method and the intention of domination are not individually sufficient for indoctrination, but they are jointly sufficient conditions of indoctrination. That is, irrational method will be a sufficient condition for indoctrination, if it is used in the whole process of schooling. On the other hand, while irrational method is not a necessary condition of indoctrination, intention is a necessary condition of indoctrination, if the intention of domination is in accordance with the aim of domination. These criteria of indoctrination - the particular type of content (which is viewed as tying with aim), irrational method and the intention of domination will be illustrated as Table 6.1. The result of schooling, education or indoctrination, can be distinguished through examining the interaction between content, method and intention.

Table 6.1 Indoctrination and its criteria

	(aim) content		method		intention	
	I	E	I	E	I	E
I content	✓	✓	✓	✓	✓	x
E content	✓	✓	x	✓	✓	x
I method	x	x	✓	✓	✓	x
E method	x	x	✓	✓	✓	x
I intention	✓	✓	✓	✓	✓	✓
E intention	x	x	x	x	✓	✓

* 'I' means indoctrination, while 'E' means education.

'v' means indoctrination occurs, while 'x' means indoctrination will not be produced.

'x/v' means indoctrination could produce which is concerned with other criteria.

II. Autonomy as a fundamental criterion

The ability for autonomy will be the fundamental element in avoiding being indoctrinators and indoctrinated. As stressed, the fundamental distinction between education and indoctrination lies in whether children's ability for autonomy is encouraged. In other words, whether children's ability for autonomy is developed constitutes the fundamental criterion for distinguishing education from indoctrination. Indoctrination limits the room for pupils to form their own value systems. As Green claims, "indoctrination aims simply at establishing certain beliefs so that they will be held quite apart from their truth, their explanation, or their foundation in evidence" (Green, in Snook (ed.), 1972b, 25). The authority of knowledge and bureaucracy are involved in the activity of indoctrination. Under such an authority and bureaucracy, children will be discouraged from taking responsibility for themselves and from forming their own value system.

Children's ability for reflection should be developed so that they will not be indoctrinated. According to the characteristics of critical thinking, pupils' ability for autonomy can be improved, if the development of their

reason is encouraged, such as: they are encouraged to take responsibility for their own problems through rational argumentation; their free will, imagination, and ideas are not suppressed; their thinking and life styles are not asked to be fixed on a specific mode.

One theme of the material - the extract(B) - implies that the Government of K.M.T. should not be overthrown because of its role as the founder of the State, like the position of parents in a family, for example. This theme also illustrates that children are not taught to develop their capacities of forming their own value systems through rational argumentation, within such an uncoerced circumstance. In contrast, children are guided to base their value judgment on a certain 'standpoint' by following an external authority, instead of exercising their ability of reflection.

The keystone of indoctrination in the above case lies in how far children can take responsibility for themselves, and whether their value systems are formed through rational argumentation. For example, whether such conclusions as, 'the revolutionary act of the seventy-two martyrs betrayed Government'; and 'we (the pupils) should support the revolutionary action of D.P.P.* at the present' can be discussed rationally without coercion. If

such conclusions are not allowed to be made by children, or children are unable to exercise rational argumentation to argue for or against value judgments, before they accept them, then teaching comes closer to being indoctrination. (Here, I do not mean that these conclusions are absolutely correct. Rather, I emphasise the process of rational argumentation.) In this sense, indoctrination occurs not because of the indoctrination of content but because children lack the ability of autonomy.

Indoctrination occupies educational activities, whatever content and method are used, when educational aim is carried by 'external' interests such as political and economic interests, rather than by 'internal' interests such as improving an individual's ability for reflection. Here, 'external' interest refers to the aim or purpose, which is alienated from one's experiences; in contrast, 'internal' interest is grounded in one's lifeworld.

* The Democratic Progress Party is an opposition political party which identifies the mistakes of K.M.T. in the R.O.C., and some of them insist on overthrowing the Government of K.M.T. (TAHR, 1989).

Education with 'external' interest will be bound to link with the imposition of 'content'. Then, schooling will merely take charge of the transmission of knowledge rather than that of the integration of knowledge with experiences. The educational content, method and intention are likely used as instruments to correspond with such an external aim. In this sense, whether the rationality of education is distorted by instrumental reason can be used as a criterion for telling education from indoctrination.

Analogously, Flew distinguishes between education and indoctrination by the development of reason:

the educator is waiting and hoping all the time for those whom he is educating to start thinking... the indoctrinator, on the other hand, is waiting for signs of trouble, and ready to intervene to suppress it when it appears, however oblique and smooth his methods may be. (Flew, in Snook(ed.), 1972b, 69)

Flew's distinction education from indoctrination rests in whether thinking ability is developed. Also, Barrow and Woods distinguish education from indoctrination by rationality. This distinction is considered from the viewpoint of morality. They point out that "indoctrination, in that it

necessarily involves lack of respect for an individual's rationality, is morally unacceptable and hence fails to rate as education" (Barrow & Woods, 1982², 77). F. J. Sheed concludes that "any educator who proceeds to shape human lives according to his own guess is exercising tyranny" (Sheed, 1935, 10). In this sense, the self plays a significant role in avoiding being indoctrinated.

That is, an indoctrinated person is different from a critical thinker in lacking ability for self-realisation and self-reflection. As Barrow & Woods claim, "the most obvious hallmark of the indoctrinated person is that he has a particular viewpoint and he will not seriously open his mind to the possibility that that viewpoint might be mistaken" (Barrow & Woods, 1982², 68).

Green, like Snook, emphasises rational argumentation as the distinction between education and indoctrination. He distinguishes education from indoctrination by the fact that education includes giving reasons, evidence, argument, etc., in order to approach the truth, while indoctrination is to conditioning as beliefs are to habits (Green, in Snook(ed.), 1972b, 25).

Integrating the function of the self and the characteristics of critical thinking, I shall take Snook's examples to argue that autonomy is a more fundamental criterion than criteria such as content, method or intention for distinguishing education from indoctrination. The basic reason is, as analysed in chapter five, that the ability of autonomy can free a person from the control of ideology.

Snook divides the cases of indoctrination into three kinds: "cases which are clearly indoctrination; cases which may seem like indoctrination, but which are not since they are unavoidable*; and problematic cases" (Snook (ed.), 1972a, 152).

The first case has three sorts of situations, which are concerned with the content of indoctrination:

* I, personally, disagree that unavoidable indoctrination is not indoctrination. In an ideal educational activity, any indoctrination should be ruled out. In practice, some situations cannot be avoided, but they are still indoctrination.

- a) teaching an ideology as if it were the only possible one with any claim to rationality [referring to content and method];
- b) teaching, as if they are certain, propositions the teacher knows are uncertain [referring to content and the intention of teachers - teachers, insincere indoctrinators, are aware of what they are doing]; and
- c) teaching propositions which are false and known by the teacher to be false [referring to content and the intention of teachers - teachers, insincere indoctrinators, are aware of what they are doing] (Snook (ed.), 1972b,152).

In examining these cases, it is clear that teachers try very hard to attain consciously the instructional purpose which they want to reach. They are not concerned about pupils' aims, needs and abilities for reflection and thinking. In other words, the teachers do not take children as autonomous people, but an instrument for constituting parts of his purpose. That is not teaching or education, but indoctrination.

Snook illustrates his second case of indoctrination with three examples.

They are:

- a) teaching young children correct behaviour [teachers' or adults' intention and value judgment];
- b) teaching facts by rote [referring to methods]; and
- c) influencing the child unconsciously in a certain direction [referring to

method and intention in which ideology is involved] (Snook (ed.), 1972b, 152).

Snook argues that these cases are not indoctrination because of their unavoidableness. Nevertheless, further issues can be raised, such as whether the outcome of learning is satisfactory for the teacher, parents or children themselves; who establish the criteria for so-called 'correct behaviour' - teachers, parents or children themselves; and whether irrational methods, e.g. learning by rote without understanding, are appropriate for children to learn facts and to develop their reason; similarly, whether teachers or elders force children's thinking unconsciously to develop in a certain direction; and whose direction is taken as the guide for pupil's learning or acting - teachers', parents' or children's own.

In shedding light on these questions, indoctrination is revealed when children neither participate in establishing the criteria of correct behaviour, nor express their willingness to learn by rote; when teachers unconsciously influence pupils through forming children in a 'standard' mode; and when pupils' thinking is limited to such a 'standard' mode. This is one case of the domination of ideology. In this sense, teachers should not

escape from being blamed for indoctrinating pupils.

In addition, Snook illustrates his third case of indoctrination with two examples:

- a) Inculcating beliefs believed by the teacher [the sincere indoctrinator] to be certain, but which are substantially disputed; [referring to content]
- b) Teaching any subject (e.g. Chemistry) without due concern for understanding. [emphasising method] (Snook(ed.), 1972b, 158)

According to Snook, these are problematic cases, because such cases can be claimed as indoctrination only if they are in company with certain conditions. Case (a) "is a case of indoctrination provided the teacher knows that the beliefs are substantially disputed" (Snook (ed.), 1972b, 159). Case (b) "might be indoctrination if there were positive intent to make the child incapable of further appraisal of the subject or if irrational methods were so consistently used as to lead to a contempt for the evidence" (Snook (ed.), 1972b, 159).

However, in all cases in Snook's writing, indoctrinators are people who lack ability for autonomy. At the very least, they lack the ability for

self-reflection. Perhaps, this should be a focus of teacher education in Taiwan. On the other hand, whether these cases are cases of indoctrination depends also upon whether children can free themselves from the restraint of beliefs; whether they are able to criticise the beliefs; whether they are able to exercise rational argumentation; and whether they are capable of taking responsibility for their value systems. This is the very task of teaching critical thinking.

It can be seen from the discussions over Snook's examples that teachers' and children's abilities for autonomy decide the possibility of indoctrination. For example, if children are expected to build up their ability for autonomy, then the subjects which are taught even 'without due concern for understanding', in Snook's terms, cannot become the doctrine of indoctrination.

In other words, if education is aimed at the ability for autonomy, education will not be distorted into indoctrination, which can be marked by the characteristics of dysfunction (hierarchical authority), dehumanisation (I-It form) and depersonalisation (instrumental power). In contrast, education may become indoctrination, when it connotes hierarchical authority, I-It

form and instrumental power, "although it originally indicated a liberal concept of implantation" (Snook, 1972a, 11).

Now, the characteristics of indoctrination can be synthesised from the phenomenological and hermeneutic points of view, in order to show its distinction from education. The characteristics of indoctrination are:

- a) indoctrination adheres to a relationship of hierarchy, in which dogmatic authority is marked, and the doctrine cannot be questioned;
- b) indoctrination shows the form of I-It: that is, the relationship between the indoctrinator and the indoctrinated shows the form of I-It, in which indoctrinator takes the indoctrinated as an instrument for attaining the indoctrinator's aim; and relatively, children's interests and aim are ignored; and
- c) the relationship of the cause-effect of indoctrination can be established only if children lack the ability of reflection: that is, indoctrination cannot be implemented if children are encouraged to criticise rationally, before accepting what the teacher teaches.

According to the characteristics of indoctrination synthesised above, ability for autonomy helps children avoid being indoctrinated. As Crittenden

explains, "enduring changes in thought or behaviour are not learnt unless some conscious effort relating to the change is made by the subject" (Crittenden, in Snook (ed.), 1972b, 134).

Also, autonomy avoids one being enslaved by indoctrination. Only when "learners in formal educational institutions are asked to take control over their learning" (Brookfield, 1987, 149), can education take place. "To take control over one's learning" indicates the responsibility to the self of an autonomous person. In contrast, indoctrination occurs when power within education (knowledge or the authority of educators) is abused, because under such a power, children will be prevented from being themselves. Horkheimer reminds us the power of ideology, in terms of knowledge. He claims that "men are no longer enslaved by the sword, but by the gigantic apparatus which ultimately again forges the sword" (Horkheimer and Adorno, Cumming (trans.), 1973, 233). It is the ability of autonomy to emancipate human beings from the slavery of knowledge. Thus, children's ability for autonomy should be developed in order to avoid themselves from being indoctrinated.

Children's abilities for critical and creative thinking will be forfeited under

indoctrination. Under indoctrination, children are subject to damage by subordination to authority; being tolerant of the irrational; and by reciting doctrines, by which ideology is formed.

Shor invokes Freire's "banking systems" to explain the loss of abilities for criticism and creation. Shor says,

the memorising form of study has been called by Freire the "banking system" of education, in which professors make deposits of knowledge in the empty accounts of their students' minds : "the role of the educator is not to fill the educatee with knowledge, technical or otherwise". It is rather to attempt to move towards a new way of thinking. (Freire, 1973, 125, 153; Shor, 1980, 105)

Liberal educators, like Shor and Freire, try to emancipate children from indoctrination. A liberal educator is viewed as a person who presents knowledge through reasoning processes, and guides children to establish their own self-concepts. Moore describes the teaching of a liberal educator, which is an example of teaching critical thinking:

the liberal educator will encourage the student to reason to conclusions for himself, even regarding such seemingly settled items as basic scientific

principles and the multiplication table. He will try to help the student to develop the habit of looking for the reasons for accepted conclusions. The liberal teacher will encourage the critical attitude, the questioning stance, the tendency to balance possibility against possibility, alternative against alternative. He will so teach that his students will not only be not afraid but even eager to subject to critical review what was taught them before they were capable of being critical, including what he has himself sponsored or endorsed. The liberal educator will teach as Hare puts it, with the possibility in mind that he will some day discover that he is talking to an educated man like himself - a man who may disagree with everything he has said...(Moore, in Snook (ed.) ,1972b, 98)

Authentic education can then be characterised by an enlightening activity, by which children are encouraged to seek their authenticity. Cooper claims that "each has his individual essence; and to live in accord with it is to live authentically" (Cooper, 1983, 8). Also, he argues that "unless the goal of moral betterment involves the attempt to foster critical, self-conscious, independent moral choice, it cannot figure in an education revolving around the notion of authenticity" (Cooper, 1983, 91).

An authentic person, who is sincere to himself, can be taken as the fundamental aim of education for autonomy. According to Cooper, an

authentic person is the person who lives "in full awareness of the possibilities of action, belief, and purpose that are in fact open to him, and which anyone concerned with his existence as an issue must consider" (Cooper, 1983, 19). Moreover, an authentic person should "make his beliefs and values his own, and this must involve the attempt to see how he has come by and retained the ones he has: for if he has simply taken them on board, or begins to see them as having been thrust upon him, then they cannot - yet, anyway - be his own" (Cooper, 1983, 87).

An authentic person is not only a rational autonomous person, but also a romantically autonomous person who is keen on self-actualisation, through harmonising his rational and emotional aspects of life. In this sense, an authentic person should be an autonomous person. This is probably the reason why Peters and Dearden insist that "their [autonomous persons] emphasis is on autonomy as well as on authenticity" (Dearden, 1973, 453; Peters, 1977, 63).

A general form of education for autonomy will be encapsulated as follows:

a) aim at ability for autonomy

Such an aim bears central characteristics such as, rational thinking, democratic literacy, and the abilities for self-realisation, self-reflection, and self-actualisation etc. The significance of the self is revealed from such an aim.

Autonomy cannot be acquired merely from outside circumstances, but from the internalisation of the self. That is, through self-realisation, self-reflection, and self-actualisation, an autonomous person develops himself. In this way, an autonomous person should be able to adjust himself to new circumstances through the process of integration (or equilibrium in Piaget's terms). Education then should be aimed at developing rational individuals, who, as Hatcher indicates, are critical and creative enough to respond to change and complexity, and are capable of ultimately determining their own directions and values (Hatcher, 1979, 40-1).

b) rational argumentation within uncoerced circumstances

Such an educational aim must be in company with a teaching and learning process of rational argumentation. Rational argumentation cannot proceed,

unless there is an uncoerced situation. In my view, teaching for autonomy must be marked by knowledge without doctrines, enlightenment without alienation, democracy without domination, communication without distortion, and critical reflection without illusions. How to reach this aim will be the task of teaching critical thinking, which will be discussed in the next chapter.

Chapter VII

**THE IMPLICATIONS OF CRITICAL THINKING
FOR EDUCATION (II):
TEACHING CRITICAL THINKING**

I. Arguments

II. Foundation abilities and the curriculum

III. Pedagogical principles

Conclusion

Chapter VII

**THE IMPLICATIONS OF CRITICAL THINKING
FOR EDUCATION (II):
TEACHING CRITICAL THINKING**

If teaching is an art, then teaching for critical thinking should also be an art, because of the level of complexity of thinking which is involved. Here, I am not intending to offer for teachers a syllabus for teaching critical thinking. I shall clarify the concept of teaching critical thinking, and establish its meta-principle, with 'meta' defined as knowledge about knowledge (Nickerson, Perkins & Smith, 1985, 294).

First of all, I shall deal with arguments about teaching for critical thinking, in order to focus the issues which are involved in that teaching. The arguments will be a) teaching critical thinking is compatible with knowledge teaching; and b) the transferability of critical thinking dispositions and abilities depends upon the structure of knowledge itself and individual ability for categorisation. Habit-forming thinking will be discussed where the transferability of critical thinking dispositions and abilities is analysed. Second, curricular design for teaching critical thinking will be analysed, in order to clarify the argument between teaching of specific abilities and a cross-disciplinary approach in teaching critical thinking. Direct teaching of specific abilities, and a cross-disciplinary structure, which mixes some similar fields within a subject for teaching critical thinking, will be discussed. Finally, instructional principles for teaching critical thinking will be suggested as a frame of reference for teachers.

I. Arguments about teaching for critical thinking

Arguments about teaching critical thinking still exist, although critical thinking has become more important in education than before (Fisher, 1988, 12; Lipman, 1989, 2). As Ennis claims,

there is much that we do not know about the capabilities for critical thinking of students of various sorts at various levels. Teaching materials and tests need to be developed and there is disagreement about what critical thinking is and how it can be included in the curriculum. [For example], should critical thinking be taught as a separate course or be included in the instruction in an existing course, or both...? (Ennis, 1985, 28)

This thesis will not directly answer questions which Ennis raised, yet, the questions raised by Ennis above will be involved in this chapter.

First of all, two arguments about teaching critical thinking will be dealt with in this section, in order to reach a consensus on teaching critical thinking. The first argument is relative to the argument about the nature of teaching and that of teaching for critical thinking, while the second one is relative to teaching method and the curriculum of teaching critical thinking. These arguments can be shown in questions such as: can critical thinking be taught; how is it taught; can it be better taught via teaching of specific skills or in a cross-disciplinary way; can teaching critical thinking develop the ability for critical thinking; and why does teaching critical thinking avoid indoctrination, and how? In order to establish principles for teaching critical thinking, the above questions need to be discussed, so

that the notion of teaching for critical thinking can be stabilised.

A. Teaching critical thinking and knowledge teaching

There is a tension between teaching critical thinking and knowledge teaching through traditional ways of teaching. The tension between teaching critical thinking and knowledge teaching results from different understandings about the nature of education, e.g., the aim, teaching and learning, especially such concepts as, skepticism, reflection, emancipation, and reconstruction, which are grounded in the nature of autonomy.

Teaching for critical thinking should be compatible with knowledge teaching. However, it would not be compatible with schooling, if teaching is distorted as indoctrination. Given that teaching is taken as an activity by which teachers *give* children *all* 'required' knowledge, and children are asked to learn this knowledge, as well as to learn it by heart, then teaching critical thinking will be incompatible with knowledge teaching in the school. This sort of 'schooling' has been described in chapter one and two. A general phenomenon of such schooling - cramming for an examination, instead of forming individual value systems or constructing a rationality for a good life - becomes a crucial goal of teaching and learning

in Taiwan. This kind of teaching is defined in this thesis as the traditional view of teaching and learning.

According to the nature of critical thinking, teaching for critical thinking is aimed at providing children with more opportunities to learn how to think and to think by themselves and in their own ways - an independent and rational thinking. Teaching as such is defined as creative and critical learning. While traditional teaching emphasises the amount of knowledge children acquire from schooling, creative and critical learning, in contrast, is aimed at developing children's ability for self-development. In this sense, the ability for autonomy constitutes the key difference between traditional teaching and creative and critical learning.

Further, in the traditional view, ideas about critical thinking such as skepticism (inquiry), reflection, emancipation, reconstruction are improper, because the role of the teacher, as a mature person with professional knowledge, and the authority of schooling are devalued. In addition, in traditional teaching, children are treated as immature people who are capable of learning rather than thinking - learning from what they have taught, rather than thinking by themselves and in their own ways. They are claimed as being too young to think. Therefore, the way of their

thinking should be cast in a mold rather than be enlightened in accordance with their own ways. These propositions seem to be rational, yet the rationality of traditional teaching is arguable and needs to be examined, so that the concept of rational schooling can be clarified, and then the consensus on teaching critical thinking may be reached.

Also, teaching for critical thinking would be incompatible with knowledge teaching, if knowledge is misunderstood as unquestionable. Knowledge, established on the basis of human life, should not be alien to human experiences and lifeworld. Such knowledge must satisfy the instrumental requirement of Wittgenstein. Therefore, it is changeable, and it changes with the circumstances men face.

Wittgenstein, particularly in his text *On Certainty* (1969), rejects Cartesian and Kantian epistemological principles of the a priori. Rather, he tries to alter the place of the a priori principle within knowledge by language games, which are already accepted by a community. Following these games, what we say and do can be understood and justified. Wittgenstein claims,

giving grounds...justifying the evidence, comes to an end; but the end is not

certain propositions striking us immediately as true, i.e. it is not a kind of seeing on our part; it is an acting, while lies at the bottom of the language game. (Wittgenstein, 1969, 204)

Nevertheless, it seems to me that Wittgenstein does not completely alter the Kantian idea of the a priori. Wittgenstein replaces Kant's 'Reason' by the language game in the sense that "the language game into which one is born is for each person the ultimate locus of epistemic authority. It is not based on grounds. It is not reasonable (or unreasonable). It is there - like our life" (Wittgenstein, 1969, 559, 73e). In other words, a difference between his view and Kant's lies in the different concepts of the principle of reason (Kant) or the language game (Wittgenstein) - whether the inherited concept (reason or language games) can be justified, questioned or changed. Wittgenstein, in contrast to Kant, holds that "a language game does change with time" (Wittgenstein, 1969, 256, 34e).

Here, I am not intending to delve into the nature of knowledge or its metaphysical existence. Rather, I focus on the concept of knowledge in reality, because it is more significant for a critical thinker than the concept of knowledge of the a priori. For critical thinkers, knowledge should be questionable, and should be reflected upon, in order that knowledge will

not be alienated from human life. In a word, knowledge as such may be changed with time and space, i.e. with the change of circumstances of human life. This knowledge, which is called knowledge in reality in this thesis, is different from a priori knowledge.

In this sense, knowledge should not violate the development of human reason. Knowledge learned from schooling should not be taken as an unquestionable authority. It must be reflected upon, when it violates the development of human reason or lifeworld.

That is, teaching critical thinking is compatible with knowledge teaching, because knowledge is viewed as 'rational authority', in William Hare's terms, and can be challenged in both two sorts of teaching. Hare claims that "authority itself is not incompatible with open-mindedness, since rational authority derives from knowledge and claims to knowledge can be challenged" (Hare, 1985, 58).

Therefore, the argument that teaching critical thinking is compatible with knowledge teaching must endorse the idea of teaching and learning as thinking and experiencing. Teaching and 'learning as thinking' demand not only teaching and learning knowledge, but also reflecting upon it.

Confucius confirms this idea by saying that, "learning without thinking cannot lead to profound understanding; on the other hand, thinking without learning can go astray [Here, thinking without learning implies that thinking takes place with a lack of background knowledge.]" (*Analects*, ch. 2).

Thinking and reflection help pupils to avoid being indoctrinated. Teaching critical thinking carries the same goal as knowledge teaching, in terms of avoiding being indoctrinated. I agree with William Hare's claims that no matter whether valuable ideas can be picked up in textbooks or not, "students can be encouraged, directly and indirectly, to reflect on the values and beliefs they are acquiring, so that the danger of unthinking commitment is minimised" (Hare, 1985, 58). This confirms the claim that teaching and learning through thinking can avoid being indoctrinated. According to the process of critical thinking, questioning about existing values and beliefs is the first step towards further reflection and then to emancipating children themselves from being indoctrinated or dominated.

Teaching for critical thinking is the same as knowledge teaching in helping children to master their background knowledge. However, furnishing children with adequate background knowledge is not a sufficient but a

necessary task for teaching critical thinking and knowledge teaching. According to the cognitive process of critical thinkers, adequate background knowledge is the necessary constituent for human insights. In other words, the expansion of human insight is influenced by background knowledge. That is, background knowledge provides cognitive style with the sources of cognition. According to the characteristics of critical thinking, knowledge can be re-categorised into different cognitive styles by a critical thinker, whereas it will be kept in one's brain without any change by one who is not a critical thinker.

From the above discussion, the tension between teaching critical thinking and knowledge teaching, arises from a distortion or a misunderstanding of the concepts of a priori knowledge and knowledge in reality and of teaching and learning. If the aim of knowledge teaching rests on the enlightenment of human reason, rather than on indoctrination, then teachers and knowledge will not be viewed as authorities. Knowledge should not be unquestionable, but changeable. Also, learning will not be taken as a process of giving and taking by memorising, but as the activity of thinking and experiencing. Therefore, the tension between teaching critical thinking and knowledge teaching would be overcome, if the distortion or misunderstanding of the concept of teaching and learning is

clarified.

According to the nature of critical thinking, the relationship between learning, thinking, and knowledge must be dialectic. Knowledge is absorbed into our brains by learning, and it will be reflected upon through thinking. After learning and thinking, knowledge is expanded through reconstruction. During the process of reconstruction, 'theoretical' knowledge is transferred into 'practical' knowledge synthetically. Theoretical knowledge is assumed to be constituted through abstract thinking, e.g., imagination, meditation and so on, while practical knowledge is acquired from experiencing things in life. Theoretical knowledge can be learned from hearing and memorising, while practical knowledge must be learned from doing, seeing, practising and so on.

It is in these two ways, i.e. the ways for learning theoretical and practical knowledge, that children construct and accumulate their knowledge. McLean in a report on 'moral education' points out that pupils develop moral understanding and generalise moral principles by establishing, explaining and enforcing rules; then they grow toward self-discipline (ASCD, 1988, 25-27). This is a case in which students reconstruct knowledge through connecting the knowledge learned from schooling with

that of their lives.

In noting the processes of the acquisition of knowledge, education should leave enough room for children to experience and think about their lives, and to reconstruct their knowledge without any fear. That is the idea of autonomy - let children be themselves instead of forming them as miniature adults. This should be the fundamental principle for teaching critical thinking and for knowledge teaching.

B. The transferability of critical thinking dispositions and abilities

After the argument that teaching critical thinking is compatible with knowledge teaching has been justified, whether critical thinking is transferable, and how far it can be transferred will be argued. I will argue that abilities can only be transferred where there is a similarity of structure between two areas. This argument will be dealt with, because the nature of transferability is relative to teaching critical thinking: how do we teach critical thinking and what should be taught?

However, whether critical thinking dispositions and abilities are

transferable is still arguable. For example, McPeck holds that critical thinking can not - automatically - be transferred. For him, skills which can be transferred, especially through training, cannot be critical thinking skills. McPeck says,

there is... no reason to believe that a person who thinks critically in one area will be able to do so in another. The transfer of training skills cannot be assumed of critical thinking but must be established in each case by means of empirical tests. (McPeck, 1981, 7)

Ennis holds a quite different view from McPeck on the relationship between transferable skills and abilities and critical thinking dispositions and abilities. I shall discuss Ennis' idea later on.

In my view, whether a critical thinker can transfer critical thinking dispositions and abilities to another area depends upon two factors:

a) whether the critical thinker's understanding about the areas of knowledge between which he wants to transfer abilities extends to a sufficient degree to recognise the similarity among them. Without this understanding, he can neither work out the similarity between these two areas of knowledge, nor discover or create a common category for the knowledge in different areas; and

b) whether there exists initially similarity between these two areas of knowledge.

Therefore, McPeck's argument that "there is no reason to believe that a person who thinks critically in one area will be able to do so in another" does not mean that there is no way for critical thinking ability or dispositions to transfer. The reason McPeck offered for claiming that critical thinking dispositions and abilities cannot be transferred seems too weak to be sustained.

For Fisher, the abilities and skills of critical thinking are not only transferable, but also teachable. When talking about teaching critical thinking, he suggests that

[teachers] must teach students how to identify what is at issue, how to pick out the question to be answered, how to evaluate and produce reasoning for and against the point at issue, how to judge the strength of basic claims, how to detect (fallacious) assumptions, not just in some specific domain, but over many domains. (Fisher, 1990, 3)

All skills which are claimed as transferable skills in Fisher's statements are involved in those abilities analysed in this thesis, such as, skepticism

(inquiry), reflection (understanding), emancipation and reconstruction.

Nevertheless, the ability for critical thinking could be described differently by using a different categorisation of its constituent abilities. What this thesis offers is just an example, which is grounded in the development of human life and illuminates the process of human life by seeing it as problem-solving. Also, this categorisation will be used when the transferability of critical thinking dispositions and abilities and the principles for teaching critical thinking are discussed.

In a word, in principle, critical thinking dispositions and abilities should be transferable. The issue will be : how far critical thinking abilities can be transferable. Ennis points out the conditions for the transferability of critical thinking dispositions and abilities:

simple transfer of critical thinking dispositions and abilities from one domain to another domain is unlikely. However, transfer becomes likely if, but only if, (1) there is sufficient practice in a variety of domains and (2) there is instruction that focuses on transfer (Ennis, 1989, 5).

Ennis argues that the possibility of transferable skills lies in whether transferable skills have been taught, and whether the idea of transfer itself

has been made explicit. I agree that skills, including transferable skills, could be acquired through practice and learning from instruction. Yet, I disagree with Ennis that 'only if there is sufficient practice in a variety of domains', then transferability is possible. This is also McPeck's criticism.

It can be agreed that once 'sufficient practice' becomes a habit, skills will be automatically transferable among the areas, with which men are familiar due to sufficient practice. In my view, this is one aspect of transfer, and it is not limited to critical thinkers.

On the other hand, critical thinkers must be able to transfer critical thinking disposition and ability, to a field with which they could be unfamiliar altogether (so that there can have been no practice to prepare the way). In this situation, critical thinking must use the ability of imagination-with-reason to sort out the similarity between different fields of knowledge. This reveals the difference between critical thinkers and others who are not critical thinkers. In this sense, the foundation abilities of a critical thinker are significant for transferability. Yet, it does mean that transferable skills or ability must be learned from sufficient practice. It can merely be claimed that sufficient practice may be helpful for transfer in that background knowledge, including skills and ability, is accumulated,

so that the range of understanding may be expanded.

However, in noting the different mode of critical thinking, critical thinkers are expected to be able to transfer learned skills to the domain of the unknown. It is in this way that human history has been brought forward through the solution of human problems. In this sense, a critical thinker should be capable of exercising effectively his foundation abilities to resolve the problems he faces. The problems are not necessarily and automatically similar to that of his experiences or his cognitive styles. This is a place where a critical thinker must transfer his foundation abilities to the unknown. On this account, Ennis' claims about the possibility of transferable skills is here criticised as too narrow to cover the range of transferability of critical thinking dispositions and abilities.

More than that, as mentioned, transferable skills acquired from sufficient practice, as Ennis indicates, are habit-forming skills*. I wonder, as McPeck did, if such a way of learning - learning and practising critical thinking in a variety of domains between which abilities will be transferred - should be the way to learn how to think critically. It seems to me that

* habit-forming skills: the phrase 'habit-forming skills' is used of skills the exercise at which tends to become habitual.

learning in such a way will narrow critical thinking to the aspect of skills. Then critical thinking will be devalued to the level of instrument rather than the level of the development of human reason.

Habit-forming thinking* will decrease the function of critical thinking, when it simplifies and unifies the process of thinking. A person who exercises habit-forming thinking is supposed to "employ certain procedures, abide by certain goals, encode certain factors, manifest a certain cognitive style, use certain strategies to control cognitive load, and so on" (Nickerson, Perkins & Smith, eds, 1985, 54). In this way, the flexibility of thinking may be reduced. That is because "skillful thinking might be defined as the ability to apply knowledge effectively", as Nickerson claims (Nickerson, Perkins & Smith (eds.), 1985, 48). Chambers points out that it is in this way that "training is complex and detailed and it will often shade off into education" (Chambers, 1983, 24).

* habit-forming thinking: in psychology, mastery skills generally require memory and practice, by which one is accustomed to an action, and in the end, reflex connection is formed. Thinking formed in this way is defined as habit-forming thinking in this thesis; one becomes habitant to think in a particular way.

Nonetheless, habit-forming thinking cannot be confused with critical thinking skills. Habit-forming thinking may become a brain-training, which is one kind of indoctrination, as on a behaviorist account. In contrast, if habit-forming thinking functions simply as an activity of cognition, then a person will not confine himself to such a thinking style, but benefit from it in expanding his knowledge. Kruglanski points out that a critical thinker should be able to have the 'freezing mechanism' come to a halt at some points (Kruglanski, 1981, 281). Here the term 'freezing mechanism' means that the model of thinking is simply operated habitually like a machine. Kruglanski acknowledges the fact that critical thinking is a crucial element in distinguishing 'freezing' from 'unfreezing' in the mechanism (Kruglanski, 1981, 281). This implies that critical thinking can unfreeze the mechanism, while habit-forming thinking merely functions as a freezing mechanism.

On this account, whether habit-forming thinking will retard critical thinking depends upon how individual capacity and motivation operate habit-forming thinking (rather than upon habit-forming thinking itself). In this sense, Ennis seems to emphasise the aspect of the object rather than the subject, when he claims that "transfer becomes likely only through sufficient practice" (Ennis, 1989, 5).

Subjectivity is a core concept for critical thinking. As Ruggiero reminds us "Socrates' direction, "know thyself," is one of the cornerstones of Western philosophy and remains an imperative for the teaching of thinking skills" (Ruggiero, 1988, 56). In noting this, teaching for critical thinking should consider the element of subjectivity. It is through subjectivity that habit-forming thinking will not become a freezing mechanism. Also, it is through subjectivity that the dimensions of transferability becomes varied through the different categorisations of knowledge.

Now, I will move my discussion of transferability of critical thinking from the practical level to the metaphysical level. Metaphysically, the transferability of critical thinking dispositions and abilities rests on two elements: the structure of knowledge itself, and individual ability at transfer. In other words, knowledge itself must contain in its structure the possibility of transfer, otherwise, abilities cannot be transferred. On the other hand, the possibility of transfer must be recognised by human beings, since the transfer cannot happen by itself.

These two dimensions of transferability of knowledge - knowledge itself and the ability for transfer - will be analysed so as to clarify the

transferability of critical thinking dispositions and abilities. First, the point that the transferability of abilities rests on the similarity within knowledge itself will be discussed. Given that a critical thinker is assumed to be able to exercise his foundation abilities effectively, and given that every critical thinker possesses a similar ability for transfer, different results of transferability might still occur. For example, given that both pupils A and B exercise their skills and dispositions in 'playing the piano' very well, it could happen to them that they transfer different aspects the same skills or dispositions to varied fields. Say, pupil A transfers his to dance, while pupil B transfer them to typing.

This difference results not only from individual intelligence and ability, but also from the structure of knowledge itself. In other words, one can transfer the skills or abilities of 'playing the piano' to that of 'typing' or 'dancing', because there is similarity between 'playing the piano' and 'dancing', and between 'playing the piano' and 'typing'. On the other hand, the reason why pupil A transfers the skills or abilities of "playing the piano" to 'dancing', while pupil B transfers them to 'typing' is that they have recognised different similarities between the activities: pupil A sorts out the similarity in terms of melodics, while pupil B sorts out the similarity in terms of mechanics.

Therefore, knowledge can only be transferred either where different fields of knowledge share a similar structure with each other, or where a person can put knowledge into the categories in accordance with his cognitive styles. In this way, knowledge can be grasped by working out its categories, and it will be expanded by creating a new category for knowledge.

As Hirst claims, "knowledge is hierarchically structured in various levels" (Hirst, in Dearden, 1972, 392). Knowledge can be grasped through varied categories. For example, Kant categorises knowledge into experienced, empirical and pure knowledge (Kant; Smith, (trans.). 1968, 43, 53), or constitutive and regulative knowledge (Kant; Smith, (trans.). 1968, 517-554), while Habermas categorises it into empirical-analytical, hermeneutic-historical and emancipatory-critical knowledge (Habermas; Viertal (trans.), 1971). In addition, knowledge can be categorised into absolute, phenomenal and essential knowledge (Tran, 1989, 266); content and general pedagogical and curriculum knowledge (Grant, 1988, 41); factual and value knowledge (Koch, 1969, 133); objective and subjective knowledge (Goldman, 1986, 3) and Hirst's forms of knowledge, etc. The above varied categorisations show us that the categorisations of knowledge

can be different. However, there must exist a commonality among varied areas of knowledge within the same category.

Therefore, to categorise knowledge becomes a task of critical thinkers, when their background knowledge will be integrated into knowledge in reality. In order to reach this task, adequate background knowledge will be necessary. The more background knowledge one has, the more possibility one can establish or 'create' the category of knowledge. Then, the more possibility that knowledge can be transferred. Here, 'background knowledge' implies the ability a man has to understand the circumstances around him. In this sense, background knowledge is then important for transfer, because it is relative to the ability for understanding. Then, the more understanding of knowledge, the more universal the category that can be established. Here, the term 'universal category' means the ground of the category of knowledge. If the category is universal, then the more different fields of knowledge can be involved in it. Kant confirms the value of universal category. He says,

the absolutely necessary is only intended to serve as a principle for obtaining the greatest possible unity among appearances, as being their ultimate ground... such a necessary original being were presupposed as an ultimate ground. (Kant; Smith, (trans.), 1968, 516 - 7)

Also, Grene confirms that "the more we pursue the universal characteristics, the more we are forced to qualify them... and a theoretical attitude always aims at universality"(Grene, 1969, 280-1).

Kleinig takes the discipline of mathematics as an example to explain the possible transferability of knowledge, in terms of the structure of knowledge itself. He states that the abilities of mathematics are transferable between arithmetic, calculus, Euclidean, Riemannian geometry etc. (Kleinig, 1982, 153). There must be somehow similarities between the branches of mathematics - arithmetic, calculus, Euclidean and Riemannian geometry - so that the knowledge can be transferred from one to the other. The similarities between them could be logical thinking, reasoning, cognitive abilities and basic mathematical operations etc. This is a case where there are similarities between different subjects of knowledge.

Yet, two situations could happen. First, not all students can transfer their mathematical knowledge equally to arithmetic, calculus, Euclidean and geometry etc, although there may exist similarities between these branches themselves. Second, even though students have the same background knowledge about mathematics, such background knowledge may be

transferred to different domains, e.g. arithmetic, calculus or geometry etc. That is, the transfer of knowledge is relative not only to knowledge itself, in terms of its category, but also to the knower, in terms of the ability for categorisation.

For example, given that students have learned the same knowledge about mathematics, and given that there are similarities within mathematics between arithmetic and geometry, then person A can transfer his knowledge about mathematics to arithmetic, when he is learning arithmetic; on the other hand, pupil B has the same background knowledge as pupil A has, however, he cannot transfer his background knowledge about mathematics to arithmetics, but to geometry. This example shows the significance of the knower himself in the transferability of knowledge. (There might be a psychological basis for this in one person having more aptitude in manipulation of abstract numbers, another in visualisation of shapes and areas.)

In other words, whether critical thinking in mathematics can be transferred between different branches of the subject depends upon whether critical thinkers can work out the similarity between the branches already know and those that are unknown. On a par with the case, which I described,

that the skills of 'playing the piano' can be transferred to 'dancing' or 'typing', the knower must be able to categorise knowledge into his cognitive styles so that the transfer and understanding of knowledge becomes possible.

In this sense, the transferability of knowledge is therefore limited to individual capacity of categorisation. A critical thinker with adequate background knowledge is assumed to be able to categorise the unknown knowledge according to his cognitive styles by seeking the similarities between the known and the unknown. This is the function of reconstruction, and it is in this way that critical thinkers expand their knowledge through reconstructing the categories of knowledge.

Therefore, adequate background knowledge constitutes the possibility for transfer. Thus, the range and possibility of transfer is marked by the extent and variety of similarities in knowledge which one can work out. Adequate background knowledge here means the ability for categorising knowledge according to one's cognitive styles. In this sense, understanding constitutes the possibility of categorisation. Understanding, according to the characteristics of critical thinking, is the outcome of interaction between skepticism (inquiry) and reflection. With understanding,

comparison and synthesis become possible. Comparison and synthesis are thought to be two processes of categorisation.

In addition to the ability for understanding, the ability for imagination is needed for transfer, because imagination has a synthetic potential, as Szwed claims, quoting from Kierkegaard's *Sickness Unto Death* ,

inasmuch as the self is a synthesis of finitude and infinitude, is, potential, in order to become itself it reflects itself in the medium of imagination, and thereby the infinite possibility becomes manifest. (Szwed, in McLean, (ed.), 1991, Ch. 3, p. 2)

McLean assumes imagination is an ability which makes the extension of knowledge possible. Worgul's claims confirm this idea. He says,

in essence, then, the imagination is the point of human contact with the real. Imagination continually calls the human to seek union with the experience of difference. Cognitive theory or epistemology must ...include imagination as the crucial power which makes knowledge possible. (Worgul, in McLean, 1991, Ch.VI, 13)

It is through imagination that critical thinkers bring the known and the unknown together. Also, imagination enables a person to uncover the

diverse ways of his mind, and therefore, knowledge of the known can be linked with that of the unknown through imagination. This function leads the knower to a new terrain of knowledge.

However, imagination may take the risk of making a mistaken judgment, during the process of linking knowledge of the known with that of the unknown. In this sense, knowledge which is acquired through imagination needs to be reflected upon. Therefore, the abilities for reflection and imagination are needed during the process of transfer. Imagination is aimed at establishing the linkage between different domains of knowledge, while reflection reduces the risk of imagination. That is the reason why the ability of imagination-with-reason rather than imagination or reason was used in the supernatural mode of critical thinking.

In general, in order to transfer foundation abilities to other domains of knowledge, a critical thinker should be skilled at:

- a) recognising through understanding similarities in domains of knowledge;
- b) categorising different domains of knowledge in accordance with his cognitive styles; and
- c) adequately linking knowledge of the known with the unknown through 'imagination-with-reason', reflection and reconstruction. During this

process, expansion of knowledge means an emancipation of human reason.

In sum, these two arguments about teaching critical thinking are raised, partly because of the misconception about teaching, e.g., taking knowledge teaching as an activity of giving-taking rather than learning as thinking (both arguments A and B); partly because of misunderstanding about the nature of critical thinking abilities and critical thinkers (argument B).

Clarifying the nature of critical thinking and critical thinkers paves the way for teaching critical thinking. This task was carried out through clarifying two arguments: the tension between teaching for critical thinking and knowledge teaching; and the transferability of critical thinking dispositions and abilities, including the distinction between habit-forming thinking and critical thinking.

The possibility for teaching critical thinking will be identified, so that its instructional principles can be worked out. This task will be aimed at establishing the relation between critical thinker's background knowledge and the form of curricula.

II. Foundation abilities and the curriculum

Different conceptions of teaching give rise to different instructional principles. Similarly, divergent concepts of teaching critical thinking result in different instructional principles. Therefore, in order to establish a consensus on instructional principles for teaching critical thinking, clarifying the concept of teaching critical thinking is needed. For example, reaching a consensus on questions such as can critical thinking be taught; and what is taught and how? These are also concerned with curricular design for teaching critical thinking. This section will work out the relationship between teaching critical thinking and its curricular design. The critical thinker's background knowledge, consisting of critical thinking dispositions and abilities will be considered, where curriculum is designed.

First, what critical thinking dispositions and abilities can be taught will be identified. In my view, only the dispositions and abilities which constitute the foundation abilities of a critical thinker can be taught. The idea is that schooling can help children to be critical thinkers but nobody can make anyone think critically, because a critical thinker is an autonomous person rather than a person who is determined. In general, two forms of approach, i.e. teaching of specific abilities and cross disciplinary practice,

are involved. Therefore, how to arrange these two disciplines into teaching critical thinking adequately in accordance with the direct goal of teaching, in terms of foundation abilities will be discussed.

Background knowledge, which is constituted by one's foundation abilities, is important for a person to plan his life. As Rawls claimed, "one can choose his or her own life plan, which plan then determines what his or her concept of the good is" (Rawls, 1972, 12). This implies not only that one can "become what you are" (Cooper, 1983, 16), but also that one's plan will determine one's value system. In other words, the value system is formed by the individual's understanding of knowledge, while the value system, however, will also affect cognition, which is grounded in one's background knowledge.

The relation between background knowledge and the individual's value system is similar to that of between a critical thinker's insight and his cognitive style, as explained in chapter four. In this sense, background knowledge may be built up through schooling, on the other hand, value systems must be established by the individual. However, as claimed, the more comprehensive background knowledge one has got, the wider the frame of reference one can use. Swartz emphasises the importance of the

frame of reference for critical thinking. He says, the frame of reference, i.e. foundation abilities, "must be viewed as necessary underpinnings of any good critical thinking" (Swartz, in Baron & Sternberg (eds.), 1990, 111). The question then will be: what foundation abilities should critical thinkers have?

The abilities for skepticism, reflection, emancipation and reconstruction constitute the necessary not the sufficient conditions for critical thinkers. With the abilities of skepticism (inquiry), reflection, emancipation and reconstruction, a person can think critically. Also, it is with these abilities that one's knowledge is expanded. However, these abilities must be exercised by an autonomous person so that critical thinking can be revealed. This is the reason why two persons who possess the same abilities of skepticism, reflection, emancipation and reconstruction, in terms of quantity and quality, may not both be critical thinkers, or they may both think critically but in different areas of knowledge. This is, partly because the ability of transferability or categorisation is varied, as discussed in the previous section; partly because critical thinkers must be autonomous people, so that they organise their cognitive styles in accordance with the circumstances they face.

The abilities of skepticism, reflection, emancipation and reconstruction can be learned from schooling, while the ability for autonomy needs to be learned from experiencing via self-realisation, self-reflection and self-actualisation. The abilities for skepticism, reflection, emancipation and reconstruction constitute the foundation abilities of critical thinking, while the ability for autonomy manifests the significance of the subjectivity in the development of human reason. In other words, the ability of autonomy plays the drawing force of critical thinking, while the abilities of skepticism, reflection, emancipation and reconstruction are the sources of critical thinking. In this sense, the abilities of skepticism, reflection, emancipation and reconstruction can be taught, while the ability for autonomy relies on self-education on the basis of one's foundation abilities.

Therefore, the principles for teaching critical thinking suggested in this chapter will be the pedagogical principles for teaching the foundation abilities of critical thinkers, i.e. the abilities for skepticism, reflection, emancipation and reconstruction. Then, how to design appropriate curricula for teaching such foundation abilities will be discussed. In other words, how to teach such foundation abilities, either through a specific teaching or a cross curriculum, needs to be discussed.

The curriculum designed for teaching critical thinking should be in accordance with the direct goal of teaching. The direct goal of teaching should be varied for different children in accordance with their individual demand for learning, in terms of individual aim and ability. For example, given that children have learned cognitive skills and problem-solving methods for identifying central issues, making comparisons, determining relevance, judging information, checking for consistency, recognising assumptions and distinguishing false from accurate images, then a direct goal for teaching critical thinking may be how to help children to integrate such skills into their lives. For instance, how to use such skills for recognising their ideologies. In contrast, if children have not learnt problem-solving skills as such or other prerequisites, then the direct goal for teaching critical thinking may be aimed at improving children's skills for solving problems or other prerequisites, which are needed for children to cope better with their lives.

In general, a cross curricular approach may be appropriate for offering children more opportunities to connect dispositions and abilities, learned from schooling, with their lives. On the other hand, a teaching of specific abilities lays emphasis on the requirement of particular skills or abilities, in order to furnish children with adequate foundation abilities of critical

thinking. In other words, when specific cognitive skills and abilities are taught, a teaching of such specific abilities may be appropriate; while a cross curricular approach will be appropriate when the direct aim of teaching lies in helping children to practise the skill of integration, to experience their basic skills and abilities in their lives, and to establish their own value systems with these basic skills and abilities. These basic disposition, skills and abilities constitute the sources of cognition.

Two key ideas about teaching for critical thinking must be clarified, no matter whether critical thinking is taught via teaching of specific abilities or cross-disciplinary experience. First, the ultimate educational aim must rest on the idea of educating a whole person. Although school-subject knowledge is not necessarily identical to everyday knowledge, school-subject knowledge should not be alienated children from their lives.

Second, teaching specific abilities and a cross-disciplinary recognition of the abilities serve as dialectical curricula for teaching critical thinking. Teaching of specific abilities and cross-curricular approach should be constituted in a synthetic way for teaching critical thinking, by which children combine school-subject knowledge with everyday knowledge. For example, to acquire a specific skill, direct teaching may be appropriate to

meet this demand. To learn an ability for integrating knowledge with life, a cross-curricular approach may be the appropriate one. After learning specific abilities through direct teaching of them, the use of the abilities in a variety of domains needs to be followed up, so that children can integrate specific skills either with other domains of knowledge, or with their lives. This is the dialectical way of curricula design.

In this sense, any one of these curricula may be insufficient for teaching critical thinking. For instance, logic skills first of all should be taught directly, so that children can concentrate on learning the 'skills' of logic thinking. After children have learned basic skills about logic, cross-disciplinary experience, e.g., applied logic, should be provided, so that children can integrate their knowledge about logic into their real lives. And then, further specific teaching of advanced knowledge of logic, which is grounded in children's basic ability of logic, will be needed again. In this sense, a fixed curriculum for teaching critical thinking is inadequate for matching this need.

In other words, the specific teaching and cross-disciplinary elements of the curriculum need to be designed dialectically, so that schooling knowledge will not be alienated from knowledge in reality. Within this idea, the

principle for designing specific teaching or cross-disciplinary experience
for teaching critical thinking can be illustrated as follows:

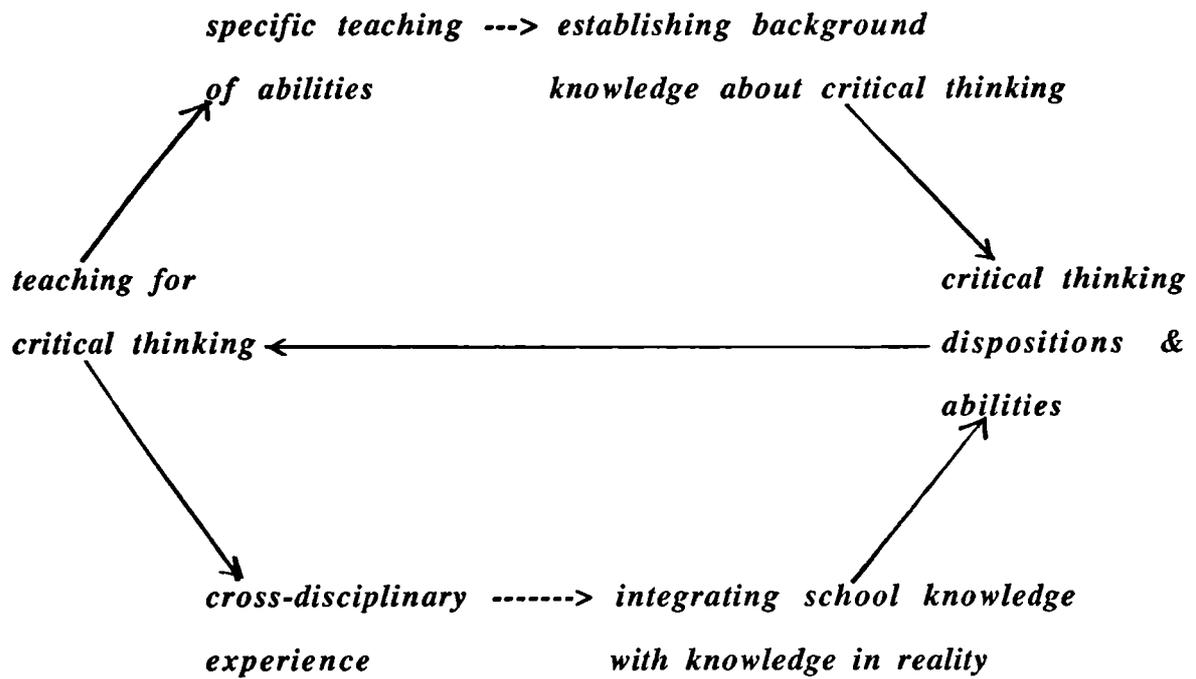


figure 7.1 The type of curricula for teaching critical thinking

According to the spirit of curricular design for teaching critical thinking as such, teaching for critical thinking should not be expected to make one critical, but it can help one to develop the ability for critical thinking through individual experiencing. Education therefore can provide children with means and knowledge to think and think critically, but children must themselves engage in developing the ability for critical thinking. As a Chinese motto says, 'education can only offer children fishing poles or even fishing bait, yet children must fish by themselves'. This again reveals the distinction between education and indoctrination by showing the subjectivity of an autonomous person.

Next, the principles for teaching background knowledge of critical thinking, i.e. the abilities for skepticism, reflection, emancipation and reconstruction, will be worked out with reference to teachers.

III. Pedagogical principles

As Lipman (1988), Siegel (1988) and Weinstein (1991) claim, critical thinking can be seen as a foundation and ideal for education (Weinstein, 1991, 95 & 97). If this is the case, then teaching for critical thinking should become one of the important goals of education. How to help

teachers to attain this goal will be the concern of this section.

Two fundamental principles for teaching critical thinking will be mentioned, before the principles for teaching the abilities of skepticism (inquiry), reflection, emancipation and reconstruction will be suggested. First, a basic consensus on education is that a variety of teaching materials or methods for varied groups are needed for teaching critical thinking, because teaching must be in accordance with various groups of children's abilities. As Ennis suggests, "different groups (boys and girls; social class groups; high, medium, and low mental ability groups) need different approaches" (Ennis, 1962, 109).

Second, a democratic principle is also a general principle for teaching critical thinking. Under this principle, children are allowed to explore alternatives, to consider stereotypes, conventional and controversial ideas. In other words, teachers should let children be free to speak and to think in their own ways. According to Habermas (1984), ideally, democratic principles demand us not only to persuade but also to listen to and to have concern for others. Also, democracy implies that everybody should be taken as an autonomous person, and society should be constituted by these people (Habermas; McCarthy (trans.), 1984).

On the ground of these two general principles, the principles for teaching critical thinking, in terms of the abilities for skepticism (inquiry), reflection, emancipation and reconstruction will be worked out.

The first principle is the principle for teaching the ability of inquiry. Inquiry is stimulated by sensitivity and curiosity. Sensitivity and curiosity might be in accordance with personality. This is shown in Krippner's research. He formulates four types of personality to show the varied method of inquiry: sensing-thinking, sensing-feeling, intuition-feeling and intuition-thinking (Krippner, 1983, 86-9). In other words, man makes inquiry through senses, thinking, feeling and intuition. In this sense, experiencing will play a crucial role for acquiring such abilities.

Irrational situations provide children with chances to question. Also, vague circumstances, in which the value system is uncertain and needs to be established, will stimulate children's curiosity to inquiry. By and large, a predicament results in unsettled issues, and inquiry emerges from unsettled issues. Where there is no challenge, no problem, no difficulty, there is no inquiry, no creation, no innovation. A new paradigm for solving a new problem is sought, when men are faced with an anomaly in which existing

rules, methods and even knowledge are failing to meet new problems.

Weinstein suggests that inquiring ability must be taught through learning by experiencing, and should not be fixed on a specific dimension of thinking. Fixing our thinking on a specific dimension is a sort of habit-forming thinking, which could prevent the development of critical thinking. Weinstein explains that

inquiry, and its epistemological foundations, are contextually embedded in discourse frames, and so must permit criticism and change in the light of advances in the understanding of inquiry itself. What we will attempt here is flexible enough to respond to new conceptions, while retaining a sufficiently robust core so as to serve as a basis for a rational criterion and progressive change. (Weinstein, 1992, 95-6)

Following Weinstein's suggestions, children should be encouraged to develop their minds in many ways and to explore open-ended challenges, in order to expand the range of their inquiry. Also, Sweers reminds us that genuine Socratic questioning challenges children to think critically (Sweers, 1988, 20-2).

Within the situation in which inquiry has emerged, imagination functions as

a connector between the known and the unknown. Imagination in this sense is then significant for human beings towards a good life. This has been highlighted by Worgul. He lists scholars' concerns about imagination:

Paul Ricoeur and David Tracy have highlighted imaginations operation in hermeneutics. William Lynch has unfolded a christology and theological anthropology explicitly grounded in imagination theory. Harvey Cox has explored imagination in the interrelationships of religion and culture. Phil Keane has rooted an ethics in imagination theory, Ray Hart has analysed the relationship of imagination and revelation, and I [Worgul] have sketched the place of imagination in ritual, sacraments and Eucharistic theology. (Worgul, in McLean (ed.), 1991, ch.VI)

In this sense, developing the ability of inquiry should be in company with developing the ability for imagination.

Second, the principle for teaching the ability of reflection will be suggested. Reflection is the activity of the self. Self bears a variety of capacities, e.g, self-discovery, self-governance, self-control, self-monitoring, self-expression, self-development etc. In Toulmin's summarisation, the usages of the term 'self' reveals three functions:

a) self- and - self, treated as reflexive, auxiliary prefixes or postfixes in everyday colloquial language [for example, self-esteem];

- b) self, treated as the name of a hypothetical entity, or intervening explanatory variable, in speculative psychological theories [for instance, transcendental self]; and
- c) self, treated as a diagnostic term, in clinical psychotherapy and comparable, non-medical modes of psychological description [for example, ego]. (Toulmin, in Mischel, 1977, 291)

In addition, Frankfurt (1972) adds the freedom of will to the self (Frankfurt, quoted by Lindley, 1986, 65). This stresses the reflective function of the self. Reflection shows the self a function of examination, when self faces a perplexing circumstance. Lindley takes falling in love as an example to illuminate the significance of reflection. He describes,

you might have the thought I *know* it is crazy to tie myself down in this way, but that is what I *really want to do*, because I am so much in love, and it would be a betrayal of my love to be moved by calculations about the future. (Lindley, 1986, 91)

After clarifying the relationship between the self and reflection, three pedagogical principles for teaching the ability of reflection will be suggested. First, every child's self should be taken as a whole agent: a

child is assumed to be able to think by themselves. In other words, children should not be taken as 'things' but human beings. In this sense, teaching and learning should not be taken as a process of giving-taking, but an activity of self through reflection.

In addition, Gates suggests that the development of self provides educators with a conceptual framework for viewing the affective and cognitive domains as they exist in the wholeness of the real world (Gates, 1982, 90, 93). It implies that children's lives include not only the cognitive aspect, but also the aspect of affection. Therefore, children should learn how to harmonise rationally their lives through ability of reflection. This is an activity of learning by thinking. In other words, teaching for the ability of reflection should emphasise the activity of thinking rather than the activity of mechanism, e.g., memorisation.

As Passmore pointed out, education is an activity of learning by thinking, whereas indoctrination is learning by taking. He states:

the fundamental difference between the educator and indoctrinator is that the indoctrinator treats all rules as "inherent in the nature of things" - as not even conceivably bad rules... The educator, on the contrary, welcomes criticism, and is prepared to admit that he does not always know the

answers to them. (Passmore, 1980, 180)

'Learning by thinking' is a learning with self-reflection, whereas 'learning by taking' is merely a mechanic as learning without reflection. 'Learning by thinking' prevents children from being indoctrinated, while 'learning by taking' may be devalued teaching and learning at an instrumental level.

Children learn how to regulate themselves and how to harmonise the relationship between the individual and society through reflection. Therefore, communication provides an opportunity for children to exercise self-reflection. During communication, children exercise their abilities of inquiry and reflection, when their own ideologies are challenged and when they challenge other's ideologies through rational and open argumentation. Simultaneously, children should be encouraged to review their prejudices or ideas through such discussions. After experiencing rational communication, in which inquiry and reflection are involved, children are expected to learn skills and abilities for democratic discussion. They also should experience and learn how to control anxiety, emotions or passions. After that, children will be able to scrutinise prejudice, be sensitive to uncritical or irrational pitfalls, before they make a judgment.

Third, the principle for teaching the ability of emancipation will be discussed. It seems to me that education should take the responsibility to bring children forth from their heritage to a new value system. Emancipation is this task.

Emancipation is the first step to create a new dimension of life. Human progress implies such a rational emancipation from a heritage or tradition. As McLean points out,

if life as an ongoing process is neither the useless repetition of a broken record nor the random confusion of the proverbial "tale told by an idiot", then it must have unity, continuity and cohesion, as well as novelty, direction and meaning. This implies having a heritage or tradition but it implies as well that it be possible to bring forth from that heritage things both old and new. (McLean, 1986, 1)

In order to formulate instructional principles for emancipation, its nature needs to be clarified. The etymological meaning of emancipation can be shown in Lukes' analysis. He explains that

emancipation is a term which derives from the Latin *emancipare*, which in turn derives from *e + manus + capare* meaning to set free a child or wife from the patria potestas and later of course to set free from slavery, and

hence generally from civil disabilities. (Lukes, 1985, 28)

In Lukes' case, emancipation implies a change of interpersonal relationships, e.g., father - son (parents - children), husband - wife or master - slave. This case shows that emancipation stems from reflection, while reflection makes human enlightenment possible. The relationship of dominator-dominated will be changed through emancipation, because a liberal opportunity to escape from coercive constraints is opened up. Thus, release from a dominant relationship can be taken as the cornerstone of emancipation.

Enlightenment of reason will be possible through emancipation, because authority is not only examined, but also transcended. For example, a slave could turn his life in a new direction, and becomes a free person - at least mentally - once he emancipates himself from the fetter of his master, through reflecting upon the domination of the master.

In order to emancipate men themselves from the constraint of tradition, imagination is needed to create new dimensions of thinking and cognition. Therefore, providing children with enough room for developing their ability for imagination is also vital for the development of the ability of

emancipation.

However, imagination must be in company with reason so that imagination will not become naive. Heidegger confirms the function of imagination-with-reason in *Kant and the Problem of Metaphysics* by saying that

by his radical interrogation, Kant brought the "possibility" of metaphysics before the abyss. He saw the unknown, he had to draw back. Not only did his imagination fill him with alarm, but in the meantime he had come more and more under the influence of pure reason as such. (Heidegger, 1962, 173)

Imagination needs to be grounded in reflection to draw one's cognitive style back and to see the unknown. This is the function of imagination-with-reason. It is in this way that imagination extends critical thinkers' perspectives of thinking, but without going too far to be rational. With imagination, children could avoid sticking to concrete things. Therefore, imagination-with-reason, as Kant and Heidegger claim, empowers the ability of creation. It creates possibilities for expanding knowledge, but brings children towards the road of rational emancipation.

In noting the relationship between emancipation, reflection and imagination, teaching the ability of emancipation therefore must be in company with teaching the ability of self-reflection. In this way of teaching, although children's imagination takes the risk of making a mistake when it functions in creation or producing a new cognitive aspect, self-reflection enables them to penetrate into the error of imagination. This shows the integrated form of teaching critical thinking.

Therefore, circumstances such as: exploratory conditions for children's curiosity and creativity; open-ended discussion settings for self-reflection; and enough room for children's imagination, will open a road for children towards emancipation.

In general, emancipation is aimed at creating a new aspect. In teaching, Rebbeck suggests that free-writing is one of the creativity exercises (Rebbeck, 1989, 26-28). This suggestion stresses the idea of not killing children's curiosity, inquiry and imagination. That is, children should be encouraged to learn rationally and heuristically, and to discover different rationalities or alternatives via open-ended explorations. In this way, when children are learning the ability of emancipation, their ability for reflection

will be also developed.

On the other hand, emancipation is fundamentally grounded in autonomy, while autonomy will be expanded through emancipation. As analysed in chapter five, autonomy is in accordance with the possession of freedom, and with the task of the self. Therefore, autonomy must be expanded through emancipation, by which the possession of freedom is expanded. As Bre'hier claims, "freedom is a creation of ourselves; to be free is to do, not to become..." (Bre'hier, Baskin (trans.), 1969, 61).

Cooper enriches autonomy with "becoming what you are" (Cooper, 1983, 16). For Cooper, this sort of autonomy is 'authenticity'. In this sense, 'the' self plays a significant role in emancipation and autonomy. That is, through self-reflection, emancipation is possible; through self-actualisation, autonomy is expanded. Self-reflection and self-actualisation must be based on self-realisation, otherwise, self-reflection and self-actualisation will be distorted.

In addition, encouraging children to say 'No' is an experience of emancipation. Trying to say 'No' should be in company with the sense of responsibility. In other words, emancipation is a task for children to take

responsibility for their knowing and action. This condition is quite significant for developing the ability for autonomy, especially for Chinese children, because they are usually taught not to rebel and even not to question anything. In Chinese society, children therefore lose themselves in saying 'Yes', and then they may have trouble in saying 'No'; in particular, to say 'No' to authority, e.g., teachers. Consequently, they will be suffering from losing themselves, and also they may lack abilities for emancipation.

In my view, except for the factor of culture, two reasons for being afraid of saying 'No' may be that we have not acquired enough knowledge to prove which is correct or right; and that we lack courage to cope with a new fact which may cause much more inconvenience or tension than to act as usual.

Two methods will be suggested in helping children to say 'No'. First, education must provide children with sufficient background knowledge - as much as educators can do, and as much as children can grasp - so that children will have confidence in saying 'No'. Second, self-identity should be strengthened, because self-identity offers the self the basic ability for thinking and acting independently. With the strength of self-identity,

courage will be encouraged. Passmore suggests that "imaginativeness is a form of courage" (Passmore, 1980, 163). That is, developing the ability for imagination will help to strengthen courage.

In practice, courage can be inspired by offering children "an opportunity to think up explanations for themselves, for example, to try to think out ways of testing proposed explanations, to criticise suggested explanations", as Passmore suggests (Passmore, 1980, 48). Teachers should support children's positive self-esteem to enforce their self-identity. Meanwhile, teachers should trust children's ability for ruling themselves, then a child's authentic self can speak out. In this way, children are encouraged to take responsibility for themselves.

Finally, the principle for teaching the ability of reconstruction will be worked out. Two functions of reconstruction - synthesis and continuation - will be explained, before its pedagogical principles are suggested.

First, reconstruction is the synthetically dialectical process of critical thinking. It completes the tasks of skepticism, reflection and emancipation. The relationship between skepticism, reflection, emancipation and reconstruction can also be shown from Confucius' claim:

One can understand human events which happened around oneself, when one is forty years old; when one is fifty, one can understand the way of the Heaven; when one is sixty, one can immediately grasp what he heard; when one is seventy, one can do anything that one wants to do, but without misbehaviour. (*Analects*, Ch. 2)

According to Confucius, before forty years, one cannot understand human events very well, it is the stage for skepticism. After forty years, with the profound understanding, one can reflect upon human events but on the criterion of the Heaven. When man is seventy, he can emancipate himself from the constraints of human events and the Heaven. Therefore, he can construct his own value system in his own way, because he has become an autonomous person, whose thought and acts are automatically and naturally in accordance with the Way of the Heaven.

Here, I do not intend to discuss the epistemological foundation of Confucius' statements but, taking the statements as an example is helpful to grasp the relation between skepticism, reflection, emancipation, reconstruction, and autonomy. According to the above statements, "one can do anything that one wants..." implies the ultimate, real concern of emancipation, while "without misbehaviour" is the model of an autonomous

person. Each age-stage is a result of reconstruction in life: each reconstruction shows an improvement of a person, both his reason and his acts. The whole process shows the tasks of reconstruction in life.

According to the above discussion, the process of reconstruction can be illustrated as follows:

- a) positive acceptance after skepticism, in firmly believing in conventional rules and tending to be satisfied with them;
- b) negative rejection through reflection: by facing a new condition with new problems upon which the existing rule is reflected; and
- c) synthesising positive with negative dimensions, by which two possibilities may come to us through reconstruction - either a completely new rule or a synthetic rule, by which the existing rule is integrated into the new one.

In this process, reconstruction shows its dialectical characteristic. During this process, after skepticism, a rule or paradigm may be accepted positively. Then, this rule will be reflected upon, and it perhaps will be rejected. Finally, a new rule will be reconstructed, either by modifying the existing rule or by changing completely the existing rule.

Also, reconstruction is a continuous task. During the process of reconstruction, the ability of autonomy adjusts human value systems to be accordance with a new circumstance, while emancipation pushes men to go beyond the status quo and to venture into a new world with new knowledge. In this way, a new paradigm, in the sense of Kuhn (1962), will be constructed on or beyond the existing paradigm. However, the new paradigm may give rise to a new problem. That is the reason why critical thinkers should keep reflecting upon themselves, including their value systems, continuously when they face new problems.

Giddens confirms the significance of the continuous task of reconstruction.

He says,

...there is no circumstance in which the conditions of action can become wholly opaque to agents, since action is constituted via the accountability of practices, actors are always knowledgeable about the structural framework within which their conduct is carried on, because they draw upon that framework in producing their action at the same time as they reconstitute it through that action. (Giddens, 1979, 145)

According to the characteristics of reconstruction, i.e. dialectical synthesis and continuation, two skills are needed for the task of reconstruction:

problem-solving and communication skills. Actually, reconstruction can be viewed as a result of problem-solving. Also, these two characteristics are involved in the nature of communication, in terms of synthetical and dialectical argumentation continuously. Therefore, teaching the ability for reconstruction must at the least involve teaching the abilities for problem-solving and communication.

Problem-solving skills are skills of how we deal with a problem and how we arrive at a viable solution (D-Costa, 1986, 9-11). Such skills should be able to connect human background knowledge with real life. As discussed, critical thinkers can employ different problem-solving skills to deal with varied problems.

According to Ayer, solving problems might include at least six steps:

- a) identifying a problem;
- b) gathering information concerning the problem;...
- c) finding components of the problem;

- d) brainstorming* possible solutions to the selected problem;
- e) finding solutions; and
- f) justifying a solution and developing a course of action (Ayer, 1989, 1-14).

From the above steps, problem-solving skills can be broken into the following abilities: responding to circumstances, setting goals, analysing information, making decisions and evaluating results. In other words, skills such as analysis, classification, judgment and evaluation should be included and are needed in teaching for the skills of problem-solving.

Teaching for problem-solving skills is an art - flexible and various. Bonstingel in his book *Introduction To The Social Sciences* designs a teaching package for problem-solving skills both for teachers and students (Bonstingel, 1991, 10-43). This package includes sixteen units: expressing problems clearly; identifying central issues; making comparisons;

* brainstorming possible solutions to the selected problem shows that teaching must make an adjustment both to the individual and a group. Brainstorming is usually used in a group-teaching, however its principle can also be used by the individual. For instance, the individual sorts out the solution from different viewpoints. Every individual can categorise the solutions, which is also one of the steps of brainstorming.

determining relevance; creating good questions; distinguishing facts, opinions, and inference; checking consistency; recognising assumptions; distinguishing false from accurate images; recognising propaganda, bias, and ideologies; recognising cause and effect; predicting consequences; identifying alternatives; demonstrating reasoned judgment and drawing and testing conclusions. All these strategies provide teachers with references for teaching problem-solving skills.

Two feasible methods for developing the ability for problem-solving will be sorted out from the above discussions. First, a situation with tension, in which children's knowledge, belief and value system are challenged, is needed in order to inspire the motivation of inquiry. Meanwhile, children's curiosity and exploration therefore will be stimulated by the tension.

After learning how to cope with the tension from such a situation, children will be encouraged to deal further with controversy and uncertainty in their own life. During the processes of experiencing a tension and learning how to cope with it, children will experience how to modify the versions of their own value systems, and to sharpen their intuitive and creative capacities for solving their own problems. These accumulate the abilities

for reflection and emancipation.

The second pedagogical principle for teaching the ability of problem-solving is that children need to be arranged into a new setting, in which both their own value systems and others' will be challenged. This provides children with the opportunity to reflect upon their existing value system. In this new setting, children will be incorporated into an open-ended discussion, which leaves enough room for children to question the rationality of themselves and others', and also to exercise their imagination in connecting their own experiences with others'.

In this setting, discussion should also be stressed, because, as in Clarke's description, "discussion is a cycle of inquiry" (Clarke, 1988, 143), more than that, discussion is also an operation of reason in concrete. During discussion, children should be encouraged to clarify their values, to extend their experiences, to empower their expressive capacities, to harmonise interpersonal and intrapersonal relationships, and to strengthen their sensitivity to internal or external pressures around them.

In addition to the ability of problem-solving, teaching communicative skills constitutes the task of reconstruction. In my view and according to

Habermas' theory of communicative action, good communication must be grounded in rational argumentation (Habermas; McCarthy (trans.), 1984, 1987), in which reason and emotion are united through rhetoric techniques and rational discourse. Rhetoric is taken neutrally as a medium of communication in this thesis, while communication is aimed at expressing individual ideas, understanding each other, and reaching a consensus.

Ability for communication should be developed, because communication is such an important ability for critical thinkers to reconstruct a consensus in democratic society. The major characteristics of communicative abilities may be participation, respect, cooperation, understanding, rhetoric, decentralising and open-mindedness and so on. Apart from these abilities, a sense of humour is assumed to be positively helpful to ease a tension during communication, either when a consensus has not yet been reached, or when one's dignity is involved in an argument.

According to the above characteristics of communication, four principles for teaching communicative skills will be suggested. First, children's linguistic skills should be developed. Therefore, the abilities of speech, debate, discussion, and telling stories are important for teaching critical thinking. Second, teachers should provide children a warm, safe

atmosphere for speaking, so that children can express themselves freely. In this sense, a democratic situation is needed. Third, controversial or uncertain circumstances are also helpful for children to practise the skills of debate and discussion. Finally, folk and fairy tales can be used as relevant materials for children to develop the nature of humanity and imagination-with-reason. With these abilities, children will be able to engage in rational argumentation effectively and fluently.

In addition to the above linguistic knowledge and skills, inner speech is emphasised here, because it is significant for understanding and self-reflection, during the communicative action. Also, understanding and self-reflection constitute the foundation of emancipation and reconstruction for critical thinkers, according to the nature of critical thinking. The meaning of inner speech is shown in Richard, Platt & Weber's explanations:

inner speech is a type of "speech" discussed by the Russian psychologist Vygotsky who distinguished between external speech and inner speech. External speech is spoken or written speech, and is expressed in words, and sentences. Inner speech is speech for oneself. It takes place inside one's own mind and often takes place in "pure word meanings" rather than in words or sentences, according to Vygotsky. (Richards, Platt & Weber,

1985, 142-3)

This definition also confirms the function of inner speech as a bridge between thinking and language.

Streff points out four characteristics of inner speech in his paper at the Annual Meeting of the Speech Communication Association in 1987: silence, production of low levels of semantic elaboration, production of low levels of syntactic elaboration, and egocentricity (Streff, 1987). Also, he points out eight capacities of inner speech:

Teaching about inner speech facilitates 1) the learning of human communication as process; 2) the development of decentralising, or the ability to understand information objectively; 3) the development of displacement, or the ability to transcend time and space via the word; 4) the development of semantic elaboration; 5) the development of syntactic elaboration; 6) the learning of contextuality; 7) the awareness of language arts as an integrated discipline; and 8) the development of appreciation for the human condition. (Streff, 1987)

Inner speech ability needs to be developed, because it may help us have deep understanding by which the value system and ideology will be penetrated. Such understanding also paves the road towards rational

reconstruction.

To summarise, in practice, the abilities of critical thinking, i.e. skepticism, reflection, emancipation, reconstruction and autonomy, cannot be separated. This nature can be shown from the task of problem-solving. When authority or constraint makes men uncomfortable, men begin to question whether it is rational, if men are autonomous persons. After that, with inquiry, the authority and constraint will be reflected upon, and men may emancipate themselves from such authority and constraint. Simultaneously, a new system will be reconstructed. In this process, the authority or constraint is viewed as a problem in our life. Solving this problem becomes the task of critical thinking. In this way, the process and abilities of critical thinking cannot be completely separated.

Conclusion

The principles for teaching critical thinking rest in 'children thinking by themselves' rather than 'teachers telling children what to learn'. The abilities for critical thinking, skepticism (inquiry), reflection, emancipation and reconstruction are categorised, according to the modes of critical thinking in this thesis. The abilities of skepticism (inquiry), reflection,

emancipation and reconstruction constitute the foundation abilities of critical thinking. The range of autonomy is expanded through self-realisation, self-reflection and self-actualisation, therefore, the abilities of critical thinking are necessary for autonomy. In this sense, autonomy must be developed, and it must be developed through individual thinking and experiencing.

In this chapter, two major arguments about teaching for critical thinking were clarified. They are: teaching critical thinking is compatible with knowledge teaching; and transferability of critical thinking is possible, but it depends upon the structure of knowledge and individual ability for working out the similarity of knowledge. After that, the relation between the background knowledge of critical thinking and curricular design - specific teaching and cross-disciplinary experience - was identified, before the pedagogical principles were suggested.

Peters stresses the task of 'practice' in education by claiming that education both in theory and practice should "[keep] closely in touch with practice" (Peters, in Tibble, 1966, 55). Critical thinking is such a case. As discussed, teaching for critical thinking is a process of teaching and learning by thinking and experiencing. On this account, the detailed

syllabus of teaching for it should not be provided. Instead, in accordance with the nature of critical thinking, pedagogical principles for skepticism (inquiry), reflection, emancipation and reconstruction are established as a frame of reference for teaching.

By and large, pedagogical principles for developing the ability of skepticism are to provide irrational or vague situations, in order to stimulate children's sensitivity, curiosity. The pedagogical principles for reflection lie in the functions of the self. The pedagogical principles for emancipation emphasise the abilities of inquiry and imagination and the dispositions of courage and taking responsibility. Finally, the pedagogical principles for reconstruction include the abilities for problem-solving and communication.

With instructional principles for teaching critical thinking as a frame of reference, teachers will be expected to design an adequate syllabus for children to meet children's specific needs. In this sense, there should be no standard teaching model for teaching critical thinking. More importantly, teachers themselves should be a model as critical thinkers for children. Thus, sharing with each other their individual teaching experiences will be helpful for teachers to improve their teaching abilities

for teaching critical thinking. In this sense, seminars or research groups on teaching critical thinking in the school should be encouraged.

Conclusions

As stated, one purpose of this thesis was to provide a critical review of cultural, social and educational framings in Taiwan. That is partly because the colonial past has been an obstacle to Taiwanese autonomy, ever since Taiwan was under the occupation of the Dutch - from 1624 to 1652 (Yang, 1987, 5 - 6); and partly because education in Taiwan is dominated by Sunism, i.e. the Three Principles of the People, and Confucianism, as described in the first two chapters. Thus, contemporary educational crises in Taiwan, in terms of autonomy, were identified, and their cultural, social and educational framings were reflected on. Following this purpose, this thesis has identified the current educational problems of Taiwan and, where education should go next.

A lack of autonomy was identified as the major crisis of primary school education in Taiwan. Seeking the fundamental root of autonomy became the focus of chapter III, IV and V. One of the commonalities of critical thinking in its different modes is autonomy. In this sense, developing critical thinking can also develop one's ability for autonomy. Autonomy implies self-government with freedom for personal and social development

in this thesis. The etymology of the term 'autonomy' - 'autos' means 'self', while 'nomos' means 'rules' or 'law' (Dworkin, 1988, 12) - reveals also the role of self played in life.

Therefore, another purpose of this thesis was to indicate the significance of autonomy for life and education. Four dimensions which are concerned with the nature of autonomy were discussed: a) four modes of critical thinking; b) inner and external characteristics of critical thinking, including its definition; c) the significance of autonomy for a good life; and d) the distinction between indoctrination and education.

A central conclusion of this thesis was that it is incumbent to teach critical thinking in order that the Taiwanese meet their demands for modernisation via the ability for autonomy. The conclusions address the following questions. What is the movement of Taiwan's modernity nowadays? what are the obstacles in educational systems that curb Taiwan's movement towards modernisation? what is the nature of critical thinking? why is teaching critical thinking significant for Taiwan's modernity? and how is critical thinking put into educational practice in Taiwan?

Taiwan's modernisation: its historical and current movements

From the middle of the 17th century until the middle of the 20th century Taiwan was treated as an economy to be exploited by three periods of occupation. The first period was that of the Dutch from 1624 to 1650 (Campbell, 1967; Gordon, 1970; Yang, 1987); the second period saw the control of Taiwan by the Ching Dynasty from 1652 to 1895 (Carrington, 1977), a period which included a change of the Mainland Chinese Dynasty; and the third period was occupation by Japan, from 1895 to 1945 (Grajdanzev, 1942; The Government General of Taiwan, 1912).

Economic progress had been made during these periods. The total income of business, including products and trade, in Taiwan was at the time of the occupation of the Dutch the second highest among the Asian countries (Yang, 1987, 17; Grajdanzev, 1942, 154-159). Surplus agricultural products increased from 1,356 *piculs* in 1866 to 99,050 *piculs* in 1883 (*piculs* = *bs*) (Hopkins, 1884, 6 - 7).

In contrast, the political thought and cultural identity were underdeveloped compared with the economic development, because of military control, administrative operations and educational indoctrination. The Dutch,

instead of offering training for the Taiwanese, encouraged emigration from the Mainland to Taiwan (Yang, 1987, 11); also, they Christianized the native Taiwanese through religious dogma (Campbell, 1967, 308 - 310). The Manchu Government prohibited Mainlanders from emigrating into Taiwan for one hundred ninety years, from 1684 to 1874 (Yang, 1987, 42 - 56), lest the people in Taiwan connect with Mainlanders to rebel against the Manchu Government. Following the system established by the Manchu Government, the Japanese Government in Taiwan went further to control not only politics, the economy and the freedom of thought, but also private lives of the Taiwanese through the police and the identity card system (Yang, 1987, 216 - 217; 222)

In general, education was never a major concern at that moment, under the periods of occupation. Instead of Christianization the Dutch provided, under the control of the Manchu Government only a few people were educated to be the officials of the Government, and the Taiwanese were not allowed to develop their own value system through the policy of examination and employment (Yang, 1987, 99 -100) during the control of Ching Dynasty. The Japanese Government in Taiwan did begin to build an educational system, and education was developed rapidly in terms of numbers of schools and students, which can be shown in table 8.1 (The

Government General of Taiwan, 1946, 1211 - 1213). However, Japanisation was the major educational aim for the Japanese Government to provide the Taiwanese with education. Japanisation was aimed at making the Taiwanese into Semi-Japanese, especially value systems. Therefore, schools established for the Taiwanese were separate from those for the Japanese (Tsurumi, 1977, 242 - 245), and the Taiwanese were allowed to study only agriculture, economy and medicine. There was no way for the Taiwanese to study politics or philosophy (Riggs, 1952, 137).

Table 8.1 The development of education in 1918 and 1939

TABLE REDACTED DUE TO THIRD PARTY RIGHTS OR OTHER LEGAL ISSUES



*Source: the Government General of Taiwan, *The statistical Summary of Taiwan: since 1895*, 1946, pp.1211-1213

The mode of developing the economy instead of political thought and cultural consciousness has been initiated in Taiwan since Taiwan was under the control of the Dutch. Under such political domination, in particular, in politics and education, cultural identity was weakened and the lack of autonomy became rooted in Taiwanese society. Such a crisis still exists in current society of Taiwan, although economic and political autonomies have been claimed recently, since 1987. It is a case that the monopolisation of political opinions and the ideology of stability* retard the speed of political reform in Taiwan. (The KMT was the only political party in Taiwan until 1986, and it is still the party of the Government to date. In contrast, the DPP (Democratic Progress Party), the opposition political party, was established in 1986, and it is still too weak to be a party useful for checks and balances.)

Gradually, the political power and policies are, however, shifted in

* the ideology of stability: 'Growth with stability' must be distinguished from the 'ideology of stability'. 'Growth with stability' is a means for social and individual development, whereas 'the ideology of stability' is a political strategy for dominating by an elite. In this sense, individual or social development should not be constrained under the policy of 'growth with stability', because 'growth with stability' must be taken as simply a medium rather than an end for social, economic and political developments.

Taiwan. The subordination of economic growth to political interest was criticised through the personal and press freedoms which were expanded with the end of Martial Law. For example, a number of demonstrations emerged, e.g. the *chung-I* Incident in 1976 and the *Formosa* Incident in 1979. The crucial appeal of these demonstrations is to claim Taiwanese independence or self-determination (Gold, 1986, 94), even though the economic performance has offered the KMT Government in Taiwan a good political return (Li, 1988, 26 - 27).

This implies a demand for autonomy, it implies also the demands for modernisation and liberalisation. Modernisation in this thesis includes economic growth, political democracy and cultural development, and it results from the reconstruction of rationality, in Habermas' terms (Habermas, in Bernstein (ed.), 1985, 3 - 14). Liberalisation in this thesis emphasises 'romantic autonomy' which is based on 'conscious freedom' and, it is reached via self-realisation, self-reflection and self-actualisation, as discussed in chapter five. In this sense, rational consensus on liberalisation and modernisation is needed for the Taiwanese to overcome the crisis of the weakness of self-identity and of the lack of ability for autonomy.

The curbs on Taiwan's movement towards modernisation: an educational perspective

Taiwan is still on the way towards modernity in the economy, as well as in politics and culture, thus, what the Taiwanese should do, first of all, is to remove political and cultural obstacles to improve individual and social developments. As stressed, it is incumbent on education to help people to cope with them, however, education has been used economically and/or politically since Taiwan was the colony of the Dutch. For example, in order to reach the economic goal, the emphasis on technology becomes a key dimension for developing Taiwan's education (Council for Economic Planning and Development, 1991, 283 - 294). In addition, as analysed in chapter one and two, the educational aim is affected by political interest, which pushes education to be in accordance with economic policies through cultural ideologies of Confucianism, collectivism or nationalism.

As Chan & Clark point out, "traditional Confucian culture has seemed more important than social change in promoting entrepreneurship and economic growth" (Chan & Clark, 1992, 97). Confucianism does contribute to Taiwan's economic miracle by emphasising the instrumental function of education, and by stressing the virtues such as patriotism,

loyalty, filial piety, obedience and so on. Within these virtues, Taiwanese personality traits such as industriousness, deferred gratification are formed to contribute to the investment of physical capital. It is in this way that political Sunism, i.e. the Three Principles of the People, and cultural Confucianism have been added to the instrumental function of the economy in Taiwan since 1945.

The dysfunction, dehumanisation and depersonalisation of education, in terms of the lack of autonomy, then emerge from educational activities such as educational aim, administration, textbooks, teaching objectives and the types of learning and teaching. As a result, the Taiwanese develop merely the virtues of Confucianism, e.g., patience and fortitude, but lack authenticity and self-identity. Therefore, the Taiwanese are not courageous enough to rebel against tradition, even though education has been tremendously expanded since the 1950s (Council for Economic Planning and Development, 1992, 277 - 292; The Ministry of Education, 1991, 1). Under this situation, the ability of critical thinking reveals its significance for the Taiwanese to unfetter themselves from political and traditional curbs.

The nature of critical thinking

The nature of critical thinking was investigated through the analyses of its four modes and the reinterpretations of its noesis. The abilities of critical thinking, worked out from its four modes, are skepticism (inquiry), reflection (understanding), emancipation and reconstruction. Human insights are constituted and expanded through operating these abilities continuously. However, the noema with which critical thinking deals is so different that different modes of critical thinking reveal not only their commonalities but also their diversities.

The commonalities of critical thinking revealed through manifesting its inner logic are: a) pivoting a common motive on autonomy; b) interweaving genetic with dialectical development; c) enriching cognitive styles from one dimensionality to multi-dimensionality; d) emancipating men from alienation; and e) establishing rationality as its inner logic for a good life. The diversities of critical thinking are shown from the fact that critical thinking deals with contingencies rather than with universal situations. In this sense, critical thinking is defined as a dialectical practice of mind of an autonomous person to transcend his current life for the better.

By and large, the characteristics of critical thinking are divided into inner and external characteristics - the external characteristic shows from the expert knowledge one has; while the inner characteristic is displayed by an autonomous person. The external characteristic of critical thinking can be used to distinguish critical thinkers from others who lack critical thinking. On the other hand, distinguishing better critical thinking from worse is hard, because the criterion for human achievements should be varied to be in accordance with the whole context of human activities. Such a criterion had better be established through rational argumentations, and should not be taken as permanent.

Teaching critical thinking is significant for Taiwan's modernisation

Autonomy, as discussed in chapter five, showing the abilities of self-realisation, self-reflection and self-actualisation, is a fundamental condition for self-identity. According to the historical burden of Taiwan, analysed above, what is needed in Taiwan is more critical and rational citizens.

There are three reasons for the need for critical thinking to move towards Taiwan's modernity. First, historically and phenomenologically, alienation captures Taiwanese ability for autonomy, because of false-consciousness, e.g., the belief that silence is the best policy, and of institutionalisation during the periods of occupation. Therefore, the Taiwanese have to emancipate themselves from such alienation so as to identify themselves as autonomous people.

Second, the experiences of authoritarianism, acquired from political and cultural dominations since the occupation of the Dutch, forced the Taiwanese to develop the value system of survival which is taken as the priority of life. Also, this system shaped not only the personality of industriousness and discipline but also the personality of conservatism. Therefore, the ability for imagination-with-reason needs to be developed through enriching the cognitive style from one dimensionality to multi-dimensionality, in order to transcend such personalities which were formed by historical and cultural burdens.

Third, in order to keep abreast with the prospects for continued economic growth, and go towards mature democracy and rational culture, the Taiwanese should reconstruct the rationality of modernisation. It is

incumbent on education to improve people's abilities for critical and rational thinking, because education performs the functions of transmission and expansion of culture, including knowledge and experiences.

According to the nature of critical thinking, life is a process of problem-solving. The contemporary problematics in Taiwan: colonial past, traditional burdens, individual and social developments at the basis of instrumental reason, i.e. developing economy rather than political thought or cultural consciousness retard the speed towards modernisation. This explains the gap between the economic and political developments in Taiwan.

Under the controls of political thought and cultural consciousness, the Taiwanese are confused by questions such as, whether Sunism and Confucianism need to be reflected upon; whether the party chairman should be the real leader of the party-state; whether education is only the concern of political parties; and whether Taiwan and the Mainland should be merged into a New China. In a word, the Taiwanese are confused to decide where they should go next. Critical thinking then again reveals its significance for seeking self-identity.

The argument that critical thinking is essential for autonomy, harmony and reconstruction of a good life was justified in chapter five. The relationship between person, culture, and society is understood reciprocally via critical thinking. In other words, human beings develop themselves and build up their culture on the ground of tradition but without suffering from it, because of the intentionality for autonomy. Meanwhile, harmony, a common good not only in Greek culture but also in Chinese culture, provides an autonomous person with a criterion for happy and intelligent life. In this sense, critical thinking is needed to facilitate individual and social developments towards a better rationality in accordance with the loop of critical thinking: inquiry ---> reflection ----> emancipation ---> reconstruction ---> inquiry -->...

According to Habermas, establishing a better rationality of a good life is an aim of modernisation (Habermas, in Bernstein (ed.),1985). In this sense, teaching for critical thinking is needed for Taiwan's modernisation in two ways. One, the rationality for individual and social developments can be located through critical thinking; the other, the current rationality of development will be reflected upon continuously, so as to prevent rationality becoming a negative ideology.

First, the ultimate concern of teaching critical thinking is assumed to be to enlighten people to be themselves, i.e. to be authentic and autonomous people. Therefore, teaching critical thinking will help people to question authority which is irrational, to emancipate themselves from the negative ideology, and to reconstruct a rational value system. This is what the Taiwanese need to locate where they should go next.

Second, although education has contributed to human welfare, social stability and economic prosperity in Taiwan, political thought has been prevented from developing since Taiwan was under the control of the Dutch. Therefore, teaching for critical thinking is important for the Taiwanese to improve the ability for reflection. After that, the Taiwanese are able to reflect upon the existing value systems, e.g., the instrumental rationality, the belief in authority and cultural Confucianism.

To summarise, the abilities for skepticism, reflection, emancipation and reconstruction are needed for the Taiwanese to cope with current problems and to overcome political and cultural obstacles, and then to reach a rational consensus for individual and social developments. Therefore, teaching for critical thinking should be Taiwan's direct goal at this moment.

How to put teaching critical thinking into educational practice

In fact, teaching critical thinking has become an important concern in education (Ennis, 1985; Fisher, 1988; Kuffis, 1988; Lipman, 1989). I would like to repeat that in order to improve the ability for critical thinking, teaching critical thinking should be indispensable. How to put critical thinking into educational practice then will be an essential stage for teaching critical thinking.

However, arguments about teaching critical thinking such as, whether teaching critical thinking is compatible with the official aim of education and teaching, still exist. Therefore, a number of concepts of education such as the nature of education and knowledge were discussed in chapter seven. The main conclusions about these arguments were a) critical thinking can be taught, and what can be taught is its external characteristics, by which critical thinking may be exercised through individual experiencing; b) teaching for critical thinking is compatible with teaching knowledge, if teaching knowledge is not taken as an activity of giving-taking but of experiencing and thinking; c) possibilities for the transferability of critical thinking from school knowledge to daily life

depend upon individual background knowledge and upon individual ability for categorising knowledge into cognitive styles.

According to the nature of critical thinking, teaching critical thinking should show correspondence not only with common but also with diverse contexts. Therefore, only instructional principles for teaching critical thinking were provided in this thesis. This thesis suggested that the practical activities of teaching critical thinking must be designed by teachers and students themselves so as to be in accordance with individual contexts.

In chapter seven three principles for teaching the abilities for emancipation, reflection and reconstruction were suggested. The ability for emancipation includes the skills of inquiry and imagination; the ability for reflection includes the skills of understanding, communication and the disposition of responsibility; and the ability for reconstruction includes the skills of communication and problem-solving.

Teaching such skills and dispositions should be possible in Taiwan. First, these skills and dispositions will be effective in enabling the Taiwanese to create not only an economic miracle but also a political miracle in the near

future, because intentionality for autonomy will inspire people to create rather than to imitate; and to rationalise rather than to riot. Second, the range of freedom has been expanded with the end of Martial Law after its exercising in Taiwan for forty years. Terminating Martial Law implies that the room for freedom of thought is expanded, therefore the hindrance, in terms of cultural or political taboo, to the enlightenment of reason is reduced. This provides the very time for the Taiwanese to establish their autonomy. In addition, as Gold claims, "economic development, a higher standard of living, nine years of compulsory education, and an influx of foreign ideas and practices has created a more complex society in Taiwan" (Gold, 1986, 94); therefore, dominating the Taiwanese through political power has become more difficult than before. In such circumstances, the struggle for autonomy will be easier than in previous eras when people were suffering from the eagerness to survive.

Nevertheless, educational autonomy needs to be struggled for by teachers themselves. Teachers must first enlighten themselves to be autonomous people, then education could not be dominated economically and politically, but would have its own end for individual, social and cultural developments. In this sense, teachers' ability for self-education should be improved. Yet, if teacher education is controlled by the Government, this

will more or less constitute a difficulty for teachers' autonomy.

As discussed in chapter I, II, III and V, the difficulties for teaching critical thinking in Taiwan emerge from the fact that the criteria for autonomy and harmony become a negative ideology, in terms of instrumental reason shown in political interest and the cultural myth. Accordingly, individual development is confined to instrumental reason. In acknowledging this, distinguishing education from indoctrination is useful for bringing out the concept of autonomy, before teaching critical thinking is undertaken. This was undertaken in chapter VI.

Education acquires a chance to reflect upon itself from such distinction. Moreover, educational autonomy is drawn out through moving the attention of education from the objective aspect, e.g., knowledge, to the subjectivity, e.g., teachers and pupils themselves. In this way, the contents of political and cultural dogmas and indoctrinating methods may be prevented from functioning as indoctrination. Also, it is in this way that the educational innovation will not be at odds with existing educational systems or policies, because distinguishing education from indoctrination is taken as an educational improvement, an improvement from the inside of schooling rather than from external politics or institutions. In a word,

schooling should be reflected upon continuously so that it will not become indoctrination. Meanwhile, the consensus on the criterion for distinguishing education from indoctrination must be reached by teachers, parents and administrators. This criterion, as argued on the ground of the nature of critical thinking in this thesis, is autonomy.

Next, instead of criticising political policies, schooling should emphasise the expression of metacognitive processes and products. For example, pupils should be able to show their metacognitive knowledge, in which self-reflection, self-appraisal and individual experiences of cognition will come up. This process helps the pupil himself not only to redefine his cognitive styles, but also to share his cognitive knowledge and experience with others. This is a communicative way to establish a rational value system. In addition, in this way, pupils expand their views of knowledge and thinking, because they learn not only declarative knowledge but also procedural knowledge. More importantly, it is an educational process rather than a political interest. Therefore, it is acceptable at the present in Taiwan within cultural and political circumstances as such.

At the same time, 'learning by thinking and experiencing' was claimed as a major principle for teaching critical thinking in chapter VII. In order to

help children to cope better with their environment, teaching should provide children with opportunities to experience and to think in their own different ways, and should help children towards self-realisation, self-reflection and self-actualisation. This is the way towards autonomy. Also, through the experiences of self-realisation, self-reflection and self-actualisation, pupils' abilities for transfer and organisation may be enriched. That is, school knowledge will connect with daily knowledge through experiencing and thinking. In this sense, the ability for transfer makes sense to autonomy.

As argued in chapter seven, the possibility for the transferability of knowledge depends upon individual capacities for categorising knowledge into cognitive styles and upon the nature of knowledge itself. Also, it was argued that curricula for teaching critical thinking should be designed in a dialectical way, therefore, any one of the disciplinary approach, i.e. specific or cross disciplinary, is insufficient for teaching critical thinking. That is, given that the direct goal of learning is aimed at integrating school knowledge with daily knowledge, then a cross-disciplinary approach may be appropriate. On the other hand, if the goal is aimed at enriching pupils' background knowledge, the teaching of specific knowledge may meet such a demand. In other words, learning must be viewed as a whole activity, so

that these two forms of curricula should be integrated dialectically, corresponding with pupils' individual needs and the circumstances of teaching and learning. Through such curricula, learning by experience provides pupils with opportunities to access underlying similarities and differences among different fields of knowledge, and to integrate pupils' cognitive styles and knowledge, especially during the processes of problem-solving and rational argumentation. After such learning, pupils are expected to apply their knowledge in diverse contexts. For teachers, similarly, as Grant suggests, teaching critical thinking should be taken as a process "that draws upon teachers' knowledge in communicating subject matter to students" (Grant, 1988, 119).

Finally, improving teaching and learning by experience and thinking, as suggested in this thesis requires changing the conditions of teaching and learning such as the size of the class, the assessment, the instruction, with especial emphasis on the treatment of individual learning, and teacher education. In a word, reconstructing the consensus on schooling is needed. In this vision, existing value systems, centralised educational administration, the lack of ability for self-determination and the alienation of teachers and pupils either from educational activities or from their lives have prevented the teaching of critical thinking from showing a successful

feedback, especially in Taiwan, because Taiwan's society is suffused with the instrumental interest nowadays.

In spite of these difficulties, there is still room for enthusiasm. That is partly because, fundamentally, teaching critical thinking is compatible with current education; and partly because in the short term, as suggested above, an evolutionary rather than revolutionary innovation of education is expected. The very reason for change is that Taiwan's education at the present is distorted in the ways of dysfunction, dehumanisation or depersonalisation. Furthermore, there are at least two centres for research on critical thinking - one in California, the other in New Jersey. These are evidences to show the Government in Taiwan that the tide of education is turning to teaching critical thinking, and also may persuade the Government to go with the tide.

Education then in Taiwan at this moment is at a crucial juncture for demanding reform. The Ministry of Education in Taiwan is keen on offering projects on educational reforms, e.g., the establishment of the Centre for National Educational Research, and educational projects on the investigation of education in Social Sciences and Natural Sciences etc. In this sense, this thesis may contribute not only to the short-term educational

reform, in terms of schooling, but also to the long-term human enlightenment of reason, in terms of the reflection, emancipation and reconstruction of rationality for a good life. If this thesis can provide people with an opportunity to reflect upon the dysfunction, dehumanisation and depersonalisation of educational phenomena, to identify the authentic self and to reconstruct a rational value system, then it will instil confidence in the Taiwanese to move towards the 21st century.

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