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ABSTRACT

The first in a series of three reports on philosophy of human existence focuses on human activity in the economic context, or more specifically, the role of the entrepreneur. A variety of treatments of entrepreneurship in the literature of economics and cognitive psychology are examined, and it is found that analyses of entrepreneurship are inhibited by the unclarified relationship between the singular (individual) and the super singular (society). Concepts of human existence are then explored across the classic theories of Karl Marx, Wilhelm Friedrich Hegel, Auguste Comte, A. N. Leontjew, Emile Durkheim, C. Horton Cooley, George Herbert Mead, L. Feuerbach, Sigmund Freud, and Max Weber. It is concluded that these theories can not solve the problem arising from the relationship of singular and super singular. It is also found that these theories have some elements in common: canalization that encompasses transference of something from one to another; correlation that encompasses reciprocity, which is the basis of generalization; and combination, which encompasses production of the new. The classic theories also point to the problem of self-reference. Subsequent reports examine theories of discontinuity and explore the use of perspective text analysis to study the notion of competence. (MSE)

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Abstract

The objective of this and the two forthcoming articles is to describe the fundamental discontinuities of human existence. The reason for starting with entrepreneurship is twofold. The entrepreneurial sciences represent a tradition the subject matter of which is change, and the relation between the singular and the super singular constitutes a problem which has frustrated the cognition of human activity.

The analysis of some classic theories of entrepreneurship shows that - given a sufficient level of generalization - a small number of concepts is sufficient to model entrepreneurship within economics. The analysis, however, shows that economics alone cannot describe entrepreneurship: psychology must be included. But it also reveals that current psychological research is unable to solve the problems of entrepreneurship. Finally, the analysis finds that an unclarified relation between the super singular and the singular constitutes an obstacle to the modelling of entrepreneurship.

To remove this obstacle some classic theories are analyzed. Concurrently, it is the objective of the analysis to consider whether a set of fundamental concepts of human existence appears across the theories.

The conclusion of the analysis is that the classic theories cannot solve the problems arising from the relation between the singular and the super singular, although these theories, to some extent, have produced the means to do so.

The analysis further demonstrates that the analytic and the dialectic logic, being the matrices of the analyzed theories, are able to explain the forms of existence that are under control, but the underlying stream of uncontrolled and uncontrollable social processes is not conceived as anything but a prerequisite of the control processes.

Consequently, the analysis suggests that it is necessary to disengage the fundamental forms of development from their present theoretical bindings. If the problem of the relation between the singular and the super singular is to be solved, the dialectic as well as the analytic logic has to be neutralized. It is also suggested that modern complexity theories could be the means of obtaining a more profound understanding of the uncontrolled human existence.

Further, the analysis shows that the analyzed theories have a number of fundamental concepts of human existence in common: *canalization* which encompasses transference of something from one to another, *correlation* which encompasses reciprocity which in turn is the basis of generalization, and *combination* which encompasses the production of the new. The theories also point to self-reference, although this concept does not have a completely transparent status in all the theories. And finally the theories bring to attention the fact that it is necessary to determine whether human existence is to be viewed in a local or global perspective.

Change: a sign of the times?

For several decades, scientists have tried to answer the question of whether modern societal organizations and modern people are radically different from those of previous periods.

For instance, in an article: *A garbage can model of organizational choice*, M. D. Cohn, J. G. March and J. P. Olsen [1972] claim that social organizing has changed. Previously, organizing was a goal-directed, rational management of human labour forces. Today, organizing represents sets of choices looking for problems, solutions looking for questions, and decision-makers looking for jobs.

Elaborate calculations and detailed long-term plans are no longer the central economic issues. Instead, the business guru G. Hamel [1992] believes that the fundamental question is whether the leader has the will to succeed and the ability to be flexible.

According to J. Naisbitt - *Megatrends* [1982] - the reason for the changes is that we no longer live in an industrial society governed by a classic product economy. We exist virtually in an economy which is based on the production and distribution of information.

In his book *The third wave* [1982], A. Toffler, a contemporary trendsetter, digs a level deeper. He claims that the linear understanding of time will disappear, because synchronizing and standardizing are no longer the fundamental forces of civilization. Linear time made development and progress plausible, but today the world looks different. The images which now constitute our mental models are temporary and disconnected, and we are forced to produce and continuously reproduce our mental models at the same stroke, as the conditions of existence change. This will impose an immense burden on us, but simultaneously it will lead us towards greater individuality and a demassification of both personality and culture. The result is accordingly that we cannot understand modern people by means of the concepts and the logic which carry today's mainstream sciences of human existence.

The increased use of chaos theory in the sciences of human existence signifies an interest in creating a new basis for the theories of societal organizing and of personality. The group of scientists engaged in modelling the non-linear changes of human existence is still small, and no positive consensus exists as to how complex human life should be conceived. E. Jantsch [1980], for example, argues that the self-organizing principles of I. Prigogine and I. Stengers [1985] apply to economic phenomena, and E. C. Zeeman [1977] claims that the catastrophe theory of R. Thom [1975] can model complex psychological and social phenomena. The only common ground is the wish to discover whether it is possible to describe and model a world which is stable and yet continuously developing and unpredictable.

It is difficult to determine whether the theories of chaos will be as influential as their rising popularity suggests, but, as D. Bohm [1990] emphasizes in his book *Wholeness and the implicate order*, theories have to lead to a deeper cognition, encompassing already existing knowledge, before they can claim to be of any importance.

I believe that the chaos theories - which I prefer to designate the complexity theories - offer modes of thought and formalisms that are feasible in modelling the discontinuities of human existence.

The objective of this and the two forthcoming articles is to describe the fundamental discontinuities of human existence. In my description, I shall use some classic theories as a jumping-off ground, because it is important to absorb existing knowledge. The reason for starting with entrepreneurship is twofold. The entrepreneurial sciences represent a tradition the subject matter of which is change, and the relation between the singular and the super singular constitutes a problem which, in my opinion, has frustrated the cognition of human activity.

The first section of part one - concerning entrepreneurship - has thus the sole function of presenting some fundamental problems. Entrepreneurship as such is not the topic of discussion.

The analysis of some classic theories of entrepreneurship shows that - given a sufficient level of generalization - a small number of concepts is sufficient to model entrepreneurship within economics. The analysis, however, shows that economics alone cannot describe entrepreneurship: psychology must be included. But it also reveals that current psychological research is unable to solve the problems of entrepreneurship. Finally, the analysis concludes that an unclarified relation between the super singular and the singular constitutes an obstacle to the modelling of entrepreneurship.

In the second section of part one, the topic of investigation is the relation between the singular and the super singular as described by some classic theories. Here, the objective of the analysis is to uncover the logic of that particular relation, and to consider whether a set of fundamental concepts of human existence appears across the theories.

The conclusion of the analysis is that the classic theories cannot solve the problems arising from the relation between the singular and the super singular, although, to some extent, these theories have produced the means to do so. It is also shown that the analyzed theories have some fundamental concepts of human existence in common.

Part two comprises a description of the general and the specific theories of discontinuity.

The general theory of discontinuity - modelled, among other things, by means of catastrophe theory [Thom 1975] - suggests a solution to the problem of the relation between the singular and the super singular, claiming that the singular and the super singular are but different expressions of the same fundamental structures and processes of human existence

The specific theory of discontinuity offers a model of human existence, building on the heritage of the classic theories. The model encompasses three fundamental developmental processes: *canalization*, which includes the process of *perspectivizing* the context of the person, *correlation*, which includes the process of *systematizing* the context of the person, and *combination*, which encompasses the process of *organizing* the context of the person. Because of the three developmental processes, the person is able to put his existence into *perspective*; to put his existence in *order*; and to make *sense* in his existence.

A theory is, however, no better than the methods it is able to put into effect. As I have not myself developed a method for the production of data within the discontinuity theory, it is imperative to incorporate that of others.

Part three includes a description of *perspective text analysis*, developed by scientists at the University of Lund. The objective of this part is to evaluate whether the method can be embedded in the discontinuity theory. It demonstrates precisely the way in which this method is capable of uncovering the manner in which the person - by organizing his existence in a certain perspective in an ordered manner - is able to make sense in his personal existence.

The goal of this paper is thus to develop a basic theory of human existence that, by way of perspective text analysis, makes it possible to produce valid assertions about how the person makes sense of his existence. It is not my intention to analyze entrepreneurship on the premises of the discontinuity theory or to unfold the theory empirically. This work will constitute the next stage.

Entrepreneurship: a starting point

In the middle of the eighteenth century, the French economist Richard Cantillon drew an outline of the entrepreneurial function in a treatise *Essai sur la nature du commerce en général* [Hérbert & Link, 1988]. Since then, economics, as well as psychology, have shown a steadily growing interest in the entrepreneurial function, until scientific production exploded in the 1970s [Kent, 1984]. Unfortunately, the entrepreneurial sciences still disagree on the nature of entrepreneurship [Gartner, 1989; Casson, 1982; Kjeldsen, 1989].

In spite of the disagreements, I think it is possible to uncover a certain trend within this area, because the main part of the theoretical as well as the empirical research is based on the same ideas. These ideas include the belief that the economy follows the law of equilibrium, that the analytic logic should be paradigmatic for the work within the field, and that a linear correspondence exists between the economic function and the person who unfolds or creates the function.

In the following section, these trends will be made the centre of attention. This specific attention naturally implies that something else will be omitted from of the analysis. Theories, for instance, trying to model entrepreneurship within a pedagogical frame of reference [Herlau & Tetzschner, 1990] are cut away, and similarly theories that do not consider the relation between the individual and the economic function to be the foundation of entrepreneurship [Johannisson, 1987; Johannisson & Nilsson, 1989]. The choices are of no consequence here, because the intention is not to show the tender signs of new trends within the science of entrepreneurship. The idea is to describe parts of the mainstream science in order to illuminate some of the fundamental problems which I believe that all the sciences of human existence have in common.

The entrepreneur as an economic function

Economics traditionally builds on the assumption that human reproduction is a linear distributive relation between production and consumption. To be a linear relation means that cause and effect are connected by proportionality [Davis, 1990]. A rise in demand, for example, will produce an equivalent rise in supply.

The linear relation between production and consumption is ensured by the market mechanism, that is, the *mutual competition* between these unfolding economic functions in the market place. The market place is always in a state of equilibrium, or at least not very far from this state. Prices may go up and down, but they oscillate around an ideal equilibrium like a pair of scales being calibrated. Any price of any commodity will, given the necessary time, eventually be stabilized. The economic system is, in a structural sense as defined by Russell [1919], like a thermodynamic system close to equilibrium.

As an individual, the entrepreneur has no influence on these economic processes, because the economic function is prescriptive for the person unfolding the function. If it were otherwise, it would be impossible to think of economy in a deterministic way.

The deterministic foundation of economics, that is, the theoretical calculus, makes it *possible* to compare the concepts of different theories at a high level of generalization. All the classic theories are largely constructed as formal systems, which, according to Tarski [1944], include primitive terms and sentences (propositions) that are asserted without proof, rules of definition for introducing defined terms, and rules of inference by means of which new sentences can be deduced.

A calculus is nothing but an adjustable logic automaton, manipulating undoubted fundamental assumptions, that is, axioms following certain rules in such a way that these axioms become derivatives in the form of theorems. The production of the theorems themselves has traditionally been called a procedure.

Given these uniform preconditions, fundamental differences of opinion exist as to which economic functions the entrepreneur unfolds.

The market place entrepreneur

According to Cantillon [Hérbert & Link, 1988], the entrepreneur is a person engaged in the buying and selling of commodities for the sake of profit. As the market place is risky, as a result of competition, the entrepreneur has to exercise *commercial judgement*. The entrepreneur, for example, buys at a known price to sell at an uncertain price. The difference between two prices represents the gain or the loss of the entrepreneur.

Cantillon thus argues that the entrepreneurial function is commercial judgement. The function exists because it is impossible to know all the causal factors constituting the market place. It is a *risky* business to be an entrepreneur.

Commercial judgement, however, is an insufficient qualification for the entrepreneur. He also has to make risky *decisions* in the market place [Cole, 1959].

As risk is the common foundation of the market place entrepreneur, anybody facing such a risk in hazarding his property belongs to the entrepreneur category, even if this property is neither money nor commodities. The entrepreneur can be 'content' with investing his abilities and skills: his human capital [Kanbur, 1988].

The essential code words for the first description of the market place entrepreneur are thus commercial judgement, decision making, risk and property. All the market centred theories of entrepreneurship I have met try to manage the phenomenon by letting the entrepreneur unfold one or more of the functions designated by the terms mentioned.

What is it, then, that the market place entrepreneur undertakes? He buys at a low price to sell at a high, with the intention of pocketing a profit. The adjectives 'low' and 'high' point to the relativity of the buy-sell relation. The relativity springs from the fact that the profit-producing trade represents not one but two consecutive, interdependent transactions. First, the entrepreneur forms part of a transaction as buyer, subsequently as seller. This means that the entrepreneur shifts between two functions in the market place, divided by the period between the two events.

It is in this period that true entrepreneurial activity takes place. In this period, the entrepreneur as an owner has to run a risk. According to the theories, however, he can minimize the risk by exercising commercial judgement. When he exercises this commercial judgement, he acts as a marked strategist. Eventually, he has to act as decision maker, that is, make decisions.

Consequently, the model of the singular activity determined by the super singular function encompasses the *owner*, running a *risk*, the *strategist*, exercising the *commercial judgement*, and the *decision maker*, making the *decision*.

The theorists, however, face a problem. On the one hand they claim that the singular person has to judge and decide, and, on the other, they state that the super singular functions are subjugated economic laws which the singular person cannot influence. It is a problem that repeatedly appears in economics. Marx [1974 a], for instance, stated that economic laws take place behind mankind's back.

Here we are at the centre of the theme of this paper. It can be argued that the economic preconditions, that is, the price mechanisms, which ensure the necessary equilibrium of the market place, negate the significance of the market place entrepreneur as an economic function, stressing economic as well as function. The economics claim the existence of economic functions, i.e. decision making and commercial judgement, that cannot be economic functions.

The argument is as follows. If the price mechanism exists, the market will always reach an equilibrium, whether a new product, a new form of production or something else has effected the price of the products. Because of the competition and the relation between supply and demand, the prices will, irrespective of decisions or different forms of judgement, reach an equilibrium. An inherent natural law governs the market place.

Looked at in the perspective of the *singular* - given a specific space of time - someone will lose and someone will gain as the market place moves towards equilibrium. The above-mentioned risk of loss as well as gain in the market place is valid, but for *the singular competitor* only and not for *the system as such*. The system can neither gain nor lose, but only move towards equilibrium.

Provided that it is a particular person who wins, that person is emphasized as something special. This 'special', however, has nothing to do with economic *functions* as such, but only with individual *success*. This means that the concept of the market place entrepreneur, in the sense of commercial judgement and decision making, does not refer to economic functions but to singular occurrences, which as a set constitute a class. This class is not necessary for the economy. The class only emerges as constituted by those

who, looked at individually, are coping because they apparently are better decision makers and judges of commercial affairs.

Decision and judgement might be the prerequisites for the successful market place entrepreneur, but the functions are not necessary for the market itself, given the law of equilibrium. On the contrary: the assertion that there is a specific set of individuals who *always* receive more for their commodities, contradicts the law of equilibrium.

The economic functions, then, have to be something else, the conditions of which represent market place competition. This 'something else' can only be the set of individual winners who are successful in the short period when the market place is slightly off balance.

The conclusion is that there is no reason to occupy oneself with the market place entrepreneur as an economic function, provided that the market place behaves as if it is governed by a Newtonian dynamic, or, in any case, not as long as the entrepreneurial functions concern decision making and commercial judgement. Under such circumstances the description of the entrepreneur belongs to psychology.

I believe that the idea of entrepreneurship emerges because the oscillations of the market place are impossible to foresee, although the theories claim the existence of a linear relation between production and consumption. In this way, the economic philosophers accidentally highlight a problem which is not theirs to solve.

The production entrepreneur

Obviously, the production entrepreneur cannot be conceptualized independently from the market place entrepreneur, inasmuch as the societal mode of production, dealt with here, only exists as long as the market place exists.

In modelling the production entrepreneur, the point of departure is the relation between production and consumption, in which the producer is facing the consumer directly, without the market place entrepreneur as a go-between. In this situation, the producer appears as seller, because without sale there is no production. The producer, however, also appears as buyer, as he has to make use of the market place to acquire machinery, as well as materials and labour power for his production. So considered, buying and selling are the necessary boundary functions of production.

As the production entrepreneur and the market place entrepreneur unfold the same functions, namely buying and selling, the market place entrepreneur cannot be anything but a special type of producer. 'Market place entrepreneur', I believe, is just a label that economics paste onto a certain type of producer, who adds, for instance, aesthetic qualities to the product being processed. Standing on the fairground, the entrepreneur, for example, arranges his commodities in such a way that they appear attractive to the customers. This is his way of adding value to the product.

In economics, the production entrepreneur has exactly the same qualities as the market place entrepreneur. For the sake of convenience, I call the function encompassing decision making and commercial judgement, *direction*.

Several attempts have been made to create an all encompassing model of the production-market place entrepreneur. H. Casson [1982], for example, claims that the entrepreneur is able to comprehend and co-ordinate events in production as well as the market place. For Casson, the entrepreneur is a mixture of *administrator* and *director*.

Casson's model, however, has a predecessor, Jean-Baptiste Say, who in the middle of the last century made the entrepreneur the centre of economic change [Hérbert & Link, 1988]. Primarily, Say's entrepreneur is the director, but he is also the administrator, who puts the production into *order*. It is Say's idea that the production and the market place entrepreneur are one class: the omnipotent director, who, as an administrator, grasps the order of the production and its position in relation to the market place. He is able to move the systematized resources in relation to other productions, that is, in relation to the competition. The entrepreneurial function, according to Say, has to encompass a perspective on the market place.

Despite differences of opinion, the theorists agree in describing entrepreneurship by way of three categories: risk, direction and administration. The decision concerning which of the categories or aggregations of categories describes the entrepreneur is an arbitrary choice on the part of the theorist.

Even if everyone agreed to aggregate all the categories to the entrepreneurial puzzle, the question of whether the entrepreneur is a super singular economic function or something singular would still remain.

Provided that the present analysis is correct, direction cannot be an economic function, even if the qualified entrepreneur cannot be without the direction quality, as he or she would otherwise go bankrupt. Commercial judgement and decision making are conditions tied to the singular person and existing under the regulating conditions of competition.

This means that the concept of direction cannot designate anything but the class of directors, that is, the set of persons who take decisions and judge. The economic theory as such has nothing to do with this class. Unclarified relations between the economic, super singular processes and the singular still exist, even if the singular appears in large quantities.

The innovation entrepreneur

One of Cantillon's immediate successors, the physiocrat N. Baudeau, saw the entrepreneur as a risk taker, but he equipped the entrepreneur with an extra quality. Baudeau claims that anyone inventing or in any other way adding new technology or a new idea to the production process to reduce the cost of production, and by that raise the profit is an entrepreneur. The entrepreneurial function absorbed the process of invention and innovation [Herbert & Link, 1988]. At the same time, Baudeau pointed out, the entrepreneur takes a risk whenever he implements a new invention.

A. Marshall [Herbert & Link, 1988], however, expands the concept of innovation by including a distributive aspect, as he claims that the entrepreneur also improves methods of business and develops new markets.

Marshall makes it obvious that two distinct lines exist within the science of entrepreneurship. On the one hand, we have the entrepreneur expressing the relations between risk, administration, and direction, and, on the other, we have the entrepreneur representing the relations between risk, innovation, and direction.

As the important theorist he was, Marshall has been succeeded by numerous interpreters. F. Harbison, one of the more interesting, argues that Marshall's 'entrepreneur' is virtually an organization encompassing all the members needed in executing the entrepreneurial functions [Harbison, 1976].

Harbison's point of view is hardly distinguishable from that of Cole's [1959], as he assumes the market place entrepreneur to be divided. They both jointly point out that no single person can unfold the economic functions. This point of view is interesting, because it shows that it is possible to stick the same label onto the singular as well as the super singular. Something or other could thus indicate the existence of an unrecognized identity between what is pointed out as being of singular nature, and what is conceived as belonging to the super singular sphere.

The innovation entrepreneur owes his lasting importance to J. A. Schumpeter, who called the activity of the entrepreneur 'creative destruction' [Schumpeter, 1987].

Schumpeter is neither revolutionary in his thinking concerning the rules of the market place nor in his conceptualization of innovation. He is, however, very precise, as he defines entrepreneurial activity as any implementation of a new combination [Schumpeter, 1931].

The important point in Schumpeter's theory is his assertion concerning the existence of the unique innovative person, and, further, that innovators emerge spontaneously within the economy. In the economy, the entrepreneur performs the function of a fluctuation that could have unforeseen consequences. By his example, the entrepreneur draws

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others with him. Entrepreneurship comes in unpredictable waves, as Max Weber [1930], Schumpeter's mentor, claims.

For Schumpeter and his followers, innovation is not a super singular phenomenon. The ability to innovate is a strictly personal quality that can be of importance to the economy, as it can help the economy to expand locally. And yet as an entrepreneur can create a wave of innovation by his example, there has to be something or other reaching beyond the singular. In any case, the many entrepreneurs create something which is larger than themselves: the competitive market place that controls the singular activity.

It goes without saying that the difficulties in conceptualizing the relation between the person and the economy become worse by including innovation in the concept of entrepreneurship.

The systematics of the entrepreneurial function

The basic systematics of the entrepreneurial function is very simple. If every economic thinker taking part in the discussion receives his share of the entrepreneurial phenomenon, we will have to include: innovation, concerning organizing something into something else, administration, encompassing systematizing something already existing, direction, concerning perspectivizing something, and risk. It makes no difference if the qualities are ascribed to the singular entrepreneur or an entrepreneurial organization. The question, however, is whether the claimed concepts exist at the same level of generalization.

Considering the arguments advanced above, risk differs from innovation, administration and direction. Risk is a concept which encompasses, or at least is attached, to the other concepts. Risk is a kind of context of the other concepts.

What is it, then, that is distilled from economics? The first emerging image is nothing but the contour of an ordinary businessman, the prototypical expression of which is the manager of a small production company.

In everyday terms, the manager has to make sure that the production runs smoothly - he administrates - that the production corresponds to the demands of the known customers - he directs - that new products are developed to produce demands in potential customers - he innovates. If he is lucky, or perhaps clever, the business prospers. If not, the business will go bankrupt.

Why, then, one could ask, use energy on the analysis, if the particular sought for by economics - the Heffalump as Kilby [1971] calls it, with reference to Winnie the Pooh - appears virtually to be the common businessman, sometimes posing as an organization? Is it worth spending time and energy on something quite so banal?

In my opinion it is important because the analysis shows that the economists, who have been looking for the particular - the entrepreneur - have found their own undoubted foundation: the idea of free market exchange and competition among singular more or less clever and enterprising men, which, in the process of labour division, have become better or worse organizations. The theorists searched for the particular, but they jointly found their own common basis, namely the businessman; this basis is elevated to that of an economic function, that is, something super singular.

This is interesting, because the analysis shows that the thinkers turn their own understanding of how the super singular economic function relates to the singular person, upside down. If, ultimately, the general economic function is nothing but an expression of the many singular persons, that is, the businessmen, then the economic function is not a super singular phenomenon, but only a token of the existence of a class. This means that the only thing which could be conceptualized as super singular is the interaction of the many, that is, the competition, and, by that, the risk.

If this is the case, the conceptualization of the economic 'functions' will no longer be a concern of economics, but of psychology. In any case, the analysis of the entrepreneur in economics puts the relation between the singular and the super singular on the agenda as a problem. The question has to be asked: are the economic functions super sin-

gular forms, determining the singular, or are the economic 'functions' but an expression of the fact that several singular persons act in the same manner, that is, constitute a class?

Also, it is not completely without interest that the theories, apparently without any profound consideration, replace the singular entrepreneur with the organization. Does this mean that an organizational layer can be inserted between the economy and the person without creating problems? Can the organization be the economic agent? And if the organization is the economic agent, is the organization, then, the super singular in relation to the singular person?

The hierarchic ordering of economy, organization and person means that the definition of the singular becomes ambiguous, inasmuch as the organization becomes the singular in relation to the economy, while the person becomes the singular in relation to the organization.

Even if it is possible to create a very concentrated image of the entrepreneurial phenomenon within economics, it seems nevertheless as if thinking in concepts of functions makes it difficult to establish a valid expression of the manner in which societal reproduction takes place. The economic mode of thinking implies problems that can be solved only at the level of the person. Likewise, provided that the model of equilibrium is an adequate description of the market place, it is certain that something or other exists which cannot be explained at the level of the person.

Therefore, in order to move on, it is necessary to examine the way in which psychology has modelled the singular entrepreneur in relation to the economy. Economic thinking in concepts of functions puts the psychology of the entrepreneur on the agenda.

The entrepreneur as a psychological unit

Psychological economy

Probably the most extensive psychological research on the entrepreneur springs from the work of D. C. McClelland. In his book *The achieving society* [1961], he aims to show that the entrepreneurial wave, stated by Weber [1930] and Schumpeter [1930] to be the foundation of economic development, originates from 'that urge to achieve'.

Even though McClelland does not mention H. A. Murray, it is nevertheless he who introduces the concept of need in the book *Explorations in personality* [1938]. Need is a state of disequilibrium, driven towards equilibrium, as if determined by the second law of thermodynamics.

The law of thermodynamics is McClelland's paradigm. The paradigm should apparently make it possible to establish an immediate linkage between the singular psyche and the super singular economy, in which the economic agent acts like a particle in a thermodynamic system close to equilibrium.

McClelland never doubts the existence of other motives, but the most important is the need for achievement, which is an inner urge to obtain the feeling of accomplishing something as a person.

Freud's logical construction, called the Oedipus complex, determines the genesis of the need for achievement. McClelland claims that motherly expectations of a high standard from her son, combined with fatherly low level control, necessarily result in a personality driven by a strong need for achievement.

The logic of the Oedipus complex has the form of a calculus. The point of departure is a set of undoubted axioms: great expectations and lack of control. The resulting theorem is: strong need for achievement. If the axioms and the procedure are of a different kind, the son becomes a hysteric, a compulsive neurotic or perhaps a homosexual.

The interesting point about this formal way of thinking - which is the scientific ideal of McClelland - is that it can prove the way in which the many identical elements are produced. And reversed: if it is possible to find many of a kind in the real world, that is, a class, it is certain that a calculus lies behind the generality. Consequently, the calculus

produces the theorems, and the theorems make it possible to put the world into an order which corresponds to the theorems.

McClelland's logic is a class logic, asserting that the elements generated by the 'need for achievement calculus' will fill in the very entrepreneurial function in economics.

It is not, however, the need for achievement itself that creates the economic progress. Decision making, McClelland claims, implements the need for achievement in the economic processes.

McClelland's entrepreneur is the decision maker, who, driven by the need for achievement, judges the risk, that is, the director, as he is conceptualized within economics. Unfortunately, it is impossible to discern why the need for achievement should express itself as decision making and risk taking.

Looking at the theory of McClelland more closely, it is obvious that, even if the entrepreneur emerges as something singular, he is not conceptualized as a person. In McClelland's thinking, the entrepreneur is a psychic particle, which, in the form of the many, can explain the revolutionary waves of Weber [1939]. McClelland's 'person' is a member of a psychological class, which is stated to be an economic class because of its size. The need for achievement is a hypothetical construct produced to bring life into the economic category of direction, and to justify the fact that one person becomes a pioneer, while others do not. As observed in other theories, the pioneers are those who cope.

Within the psychology of the entrepreneur, the idea of innovation is not as popular as that of direction.

E. Hagen [1962] is among the few who have been engaged in the development of theories explaining the genesis of the creative entrepreneur. The wave of creative destruction, Hagen claims, is based on a relation between upbringing and social suppression.

The trigger mechanism of the movement towards creativity, and with that innovation, is the blocking of social ascendancy. An imperial takeover, for instance, puts the aboriginal population in a situation of this kind. The subjugated father striving for a position he cannot reach in society becomes a second-rate citizen. Because of this, he loses his authority in the family and becomes an object of contempt to his wife. The mother, then, becomes the ultimate protector of her son.

From the Oedipus conflict, in which the father figure is no longer an attractive model of authority, the creative son springs, because he can let loose his potential regardless of rules and regulations.

According to Hagen, the son of the dethroned father, however, is never able to reach the pinnacle of power through the channels utilized by the sons of the power elite. For this reason, he has to make use of untraditional means. He becomes the innovative entrepreneur, who strives for recognition from those who appear as the real fathers: the men of power. As entire strata of the population are in this particular situation they are able to change the economy of a society.

The problem attached to the 'psychology' of McClelland and Hagen is that it is not a psychological theory, but a formal reconstruction of the economic agent. Using the premises of economics, they create a particular individual who, for obvious reasons, can fill the economic functions.

Assuming reproduction to be an expandable system close to equilibrium, they construe a set of particles moving in such a manner that reproduction necessarily has to be an expandable system, as well as being close to equilibrium.

McClelland secures the psychological foundation of economics by modelling the directing administrator as a mass phenomenon. Hagen paves the way for those who stress the directing innovator as the dynamo of prosperity.

The direct followers of McClelland and Hagen are few. The reason for this may be that both theories have been heavily criticized. I believe, however, that the lack of interest in entrepreneurial *mass* phenomena is due to American self-knowledge. For most Americans, O. F. Collins, D. G. Moore and D. Unwalla [1975] point out, the entrepreneur expresses the quintessence of the national character, encompassing ideas concerning personal freedom, success and, above all, individualism.

What has to be a mass phenomenon in psychological economics becomes an elite phenomenon in individualistically oriented economic psychology.

Economic psychology

When the entrepreneur is a loner, it is necessary to change the axioms of the Oedipus complex which explain the entrepreneurial qualities. Collins and Moor [1970] thus believe that the entrepreneur, by establishing a business experiences - in a symbolic manner - an unresolved Oedipus complex. The axioms of the Oedipus complex are an unclarified fear of the strong father and a passionate urge to take possession of the cruel mother. The theorem represents a man of unusual ruthlessness, with courage and special capabilities of surviving as an entrepreneur.

If this is the case, it is understandable that E. K. Winslow and G. T. Solomon [1987] claim the entrepreneur to be mildly sociopathic, and M. Kets de Vries [1977] believes him to have a deviant personality.

Not all, naturally, assume the Oedipus complex as the paradigm of development. Those who do not cherish Freudian principles, A. Shapero and L. Sokol [1982], for instance, build mostly on the vector analysis of Kurt Lewin [1947,1969]. Within that frame of reference, the particularity of the entrepreneur is his misplacement as a person. He does not feel well, because his personal vector system does not fit the social equivalent.

Although the Freud and Lewin inspired theories differ, they all rest on the assumption that it is possible to construe a calculus which can prove the reason for an actual behavior being as it is.

The practically insurmountable obstacle connected with this type of scientific conception, is that the calculus, as a paradigm of explanation, presupposes the possibility of proving an isomorphism between the states, relations and processes of the reality and the axioms, rules and procedures of the calculus [Hofstadter, 1992]. If the reality cannot, with absolute certainty, convey meaning to the axioms and rules of the calculus, each and every procedure is nothing but a game of logic. It is very seldom - and that goes for the well-reputable and frequently quoted work of Collins and Moore [1970] too - that the theorists try to convey meaning to the calculus. If a sequence of arguments can be worked out on premises already laid down, it is taken for granted that the procedure is a true image of a process in the real world. If the fundamental isomorphism, however, between the reality and the calculus is not proven, the true procedure will never be ontologically true. This is exactly the problem of the named type of theory. The theorists create an isomorphism between the theory of their own and economics. Instead of being a person, the entrepreneur becomes an expression of an economic assertion which is converted into a hypothetical construct. This means that the theories do not explain the virtual processes.

The theories are nevertheless valuable, as they make it possible to talk about reality in much the same way as the four elements - the forerunner of the periodic table - made it possible for the Greeks to talk about the material world.

The research concerning entrepreneurial abilities, however, is seldom theoretically substantiated, but only supported by a definition. Because almost any researcher gives his definition a twist, which makes it incommensurable with that of others, the research field becomes very complicated.

The empirically oriented ability research is not a complex undertaking because its subject matter is complex. It is complicated - close to being a mess - because scientists do not co-operate. T. M. Begley and D. P. Boyd [1987], for example, distinguish between those who start a business and those who continue it. A. C. Cooper and W. C. Dunkelberg [1981] think that the adequate distinctions must be production, service, high technology and retail business. R. D. Hisrich [1990] differentiates between the entrepreneur working alone and the entrepreneur working in an organization, using the categories: entrepreneur and intrapreneur. E. B. Roberts [1968] attaches great importance to the innovative qualities of the entrepreneur, etc., etc. And it becomes worse when the re-

search extends beyond the definition. At random the entrepreneur is shown to be indefatigable, stubborn, a freedom lover, visionary, action oriented, a dreamer, a positive thinker, an optimist, self-centred, materialistic, energetic, hard working, and naturally always ready to run a moderate risk.

It is no wonder then that Gartner [1989] reaches the conclusion that, taken as a whole, entrepreneur research describes Mr. Everyman.

There is no reason for digging deeper into the different definitions and abilities of the entrepreneur, because they do not form any transparent system. It could, however, be of some interest to see if the qualities most often studied: need for achievement, risk taking and locus-of-control, are related in any significant way to the most common definitions of entrepreneurship.

In a survey article, R. H. Brockhaus [1982] shows that the correlation often searched for between small business ownership and high need for achievement does not exist; that locus-of-control cannot be used in separating entrepreneurs from non-entrepreneurs, and that risk taking among entrepreneurs resembles the risk taking observed in an average population. It is also impossible to find significant differences in attitudes towards life, age, formal education, mobility, etc. [Low & MacMillan, 1988].

Gartner [1989] even goes so far as to claim that the ability theories build on a faulty research question. Instead of asking: who is the entrepreneur? we should ask: what is it that the entrepreneur is doing?

A search for the abilities of the entrepreneur seems to be a futile occupation. The only, but accidental, result of ability research is that it has shown the entrepreneurial world, describable by a few economic concepts at a high level of generalization, to be extremely diversified at a lower level of generalization. This is, however, an important point in relation to analysis of the economic entrepreneur. The economic entrepreneur is shown to be nothing but a businessman and, as anybody can apparently have entrepreneurial qualities, anybody can be a businessman, although we do not know why some people become businessmen and others do not.

This conclusion is probable because the entrepreneurial activity does not differ from any other risky activity, that is, any other activity at all, because the future is not so easy to foresee and to control.

As discussed above, Gartner [1989] thought that the *ability* researchers ought to shut up shop. He believes that scientists can solve the problems of entrepreneurship if they start to inquire into the *activity* of the entrepreneur. Gartner, and others with him, claim the ultimate entrepreneurial activity to be that of organization building.

Organizations can, as noted earlier, be entrepreneurial. F. Harbison [1976] and H. Mintzberg [1973], for example, believe that the organization can manage risks, innovate, coordinate, administrate and direct. It is not unusual to believe the organization to be entrepreneurial, but no research tradition has developed. The reason, Gartner [1985] says, is that it is impossible to generalize because of the dissimilarities between entrepreneurial organizations. The problem of ability research repeats itself.

In any case, what is it that the creator of organizations does? He follows Lewin's [1947] group formation paradigm, in which a phase of unfreezing, encompassing the realization of needs and readiness to give up old ways of acting, is succeeded by a phase of action, and concluded by freezing, that is, institutionalization of behaviour. In the most recent version of A. H. van de Ven, R. Hudson and D. M. Schroeders [1984], today's standard model in the research field, the order of succession is as follows: first, the entrepreneur poses a problem in a rational manner, then he collects knowledge that can be transformed into a business plan, and finally he starts his business according to the plan.

The entrepreneur, still being the clever business man, develops his organization through rational administration. The entrepreneur does what economics tells him to do. The problem, however, stated by Kahneman, Slovic and Tversky [in: Aldrich & Zimmer, 1986], is that human beings seldom estimate the representational value of acquired information, and they cannot make out the inner structure of information. They only use the most easily-accessible information, and, last but not least, they follow Moer's law

saying that an information retrieval system is seldom used if possessing the information is more painful and troublesome than not having it [in: Bierschenk, 1973].

The individual never lives up to the ideals put forward by the rational models, and when the activity scientists go into empirical research, they encounter the same problem of diversity as the ability theorists did.

It might seem strange that activity theories are not so different from ability theories. Considered in an epistemological perspective, however, the reason for the fundamental similarities appears. Both paradigms build on the same logical foundation. The activity theories do not pose the question: what does the entrepreneur *do*? but: what *is* the activity of the entrepreneur? The activity theories follow exactly the same patterns as the ability theories when building systematics of human action. The only difference between the two paradigms is that the ability theories try to systematize the causes of individual action, while the activity theories systematize the results of individual action.

The relation between the singular and the super singular is a problem

The science of entrepreneurship, I think, is fairly representative regarding the difficulties associated with conceptualizing the relation between the singular and the super singular. Repeatedly, the analyses of the relation include the singular in such a way that the super singular loses its character of being virtually super singular, and the analyses of the singular presuppose the super singular in such a way that the singular, that is, the person, disappears. Among other things, the difficulties can be observed in the fact that the same abilities and forms of activity are ascribed to economic functions, organizations and persons.

Perhaps there is no difference, and, should a difference exist, it has yet to be sufficiently elucidated.

To reach the heart of the problem, I intend to present some models in the following section that, in my opinion, encompass all the necessary ingredients for the creation of a solution. The solution includes the assertion that the relation between the singular and the super singular is non-existent, and that the concepts: administration, direction and innovation are of a far more fundamental nature than the entrepreneurial sciences assume.

I have chosen theories produced by Marx, Hegel, Feuerbach, Leontjew, Durkheim, Cooley, Mead, Freud and Weber because they have the relation between the singular and the super singular as one of their fundamental themes. It is their theories that examine how the singular person is determined or undetermined by the super singular society. It is their theories that dare to tackle the great question of whether the person is something independent and unique or just an ensemble of acts and qualities, that is, an element of a class.

The singular and the super singular

To solve the fundamental problem between the singular and the super singular, I will primarily present a few but essential models of human existence.

Concurrently, I will look for basic concepts emphasized by the philosophers to be essential for the modelling of human existence. The concepts of interest are those which, at a sufficient level of generalization, are similar across the theories.

The reasons for starting with Karl Marx are that his writings have had a tremendous impact on psychology, at least in Denmark; that, in my opinion, they contain valuable knowledge, and that they belong to the period in which philosophers created the conceptual basis for the theories of human reproduction, still, in a modified form, accepted as true.

Marx elaborates the theory of the economic classes

Many a theory of personality springs from Marx's early writings: *Ökonomisch-philosophische Manuscripte aus dem Jahre 1844* L. Sève [1975], A. Leontjew [1973] and K. Holzkamp [1983], for example, broadly speaking found their attempts to conceptualize the genesis of the human individual, its existence and causal determination using interpretations of these early works.

The question is, however, whether Marx, writing in 1844, leads the way to the conceptualization of the relation between the singular and the super singular.

Marx's point of departure is that man, unlike an animal, relates to his own activity and moreover is active, whether or not he needs to provide food and clothes. Marx presupposes *intentionality*, as well as *self-reference*.

When Marx uses the concept 'man' and not 'human being' or 'people', it is because he operates within Hegel's mode of thought, in which 'man' designates the general, that is, mankind. As Marx states in *Kritik des Hegelschen Staatsrechts* [1974 b], the human essence can only express itself as many subjects, as no single subject can encompass the sphere of subjectivity.

It is Marx's fundamental assertion that striving to be free is a built-in quality of the human essence. Man is not free by definition, but he will be free eventually, when, throughout a chain of development, he realizes his human essence.

The first stage in the historical chain of development presupposes that man can deliberately externalize himself in his products. In doing so, man expresses the forces of the human essence.

The externalization, however, implies that *another* individual is able to appropriate the externalized product. When this happens with certainty, man enters the historical period of alienation. In this second stage, the externalized product of the worker, for example, is appropriated by the capitalist [Marx, 1974 a].

The externalization of the product thus determines that the appropriation, and by that naturally the hand over, posits the class of capitalists and the class of workers.

It is essential to understand that the relation between capital and work is a relation *within* the human essence. The relation between capital and work, and by that the relation between capitalist and worker, is not just a division of work among people doing something different. The relation between capital and labour is a polarized partitioning of the human essence, that is, a cleaving - in the double sense of this word - of the concept of man. The polarized partitioning is called a contradiction in the language of dialectic logic. In the contradiction of capitalism, for example, capital and labour are opposites, but identical in being the human essence.

The cleaving of the human essence is no coincidence but a natural historical necessity.

But even as man lives in the stage of alienation, the development of the forces of human essence is not slowing down: on the contrary. Alienation accelerates the development of the forces of human essence, and, by doing so, alienation is unavoidably driven through the forms of alienation: slavery, feudalism and capitalism.

At a specific moment, however, this alienation has to transform itself because of the same natural necessity. The virtual argument for the transformation is that, at a certain point, the forces of human essence become general to an extent that makes them unmanageable within the realm of private property. Quite simply, the *general* forces contradict the *singular* property.

The dialectic logic asserts that a contradiction must follow the rule called the negation of the negation, that is, transformation, the theorem of which is a higher level of existence. The procedure of the dialect calculus is called *Aufhebung*.

When the *Aufhebung* has taken place, the forces of human essence have become human in the real sense of the word. This means that the true forces of human essence are released in the form of the person being united with other persons in the common striving to unfold the idea of mankind. Man no longer exists as two classes, but as free, self-referential persons. This final stage is called societal.

In Marx's later works, the different stages of human history receive different designations. The first is called primeval communism, the second one class society and the third communism, which is the undivided and unhegemonial co-operation in which personal ownership exists, but private property or market place competition do not.

The self-referential logic of history

The deterministic thinking of Marx is an unfolding of Hegel's logic of self-consciousness or, as I prefer to call it, the logic of self-reference.

This mode of thought departs in the logical concept of thesis. The thesis, necessarily, splits off its own antithesis, because this is the nature of a thesis. When the thesis subsequently reclaims its own antithesis, the thesis *and* the antithesis are transformed into the synthesis, which is the thesis at a higher logical level. Thesis, thesis/antithesis and synthesis represent the general procedure; any developmental phenomenon has to follow, according to this tradition. Or better: logic and development are one and the same. The history of mankind follows a certain developmental form, which is a built in quality of the human essence. The form lies as an embryo that has to unfold according to the logic.

Using this logic, Marx conceptualizes the relation between the super singular and the virtual singular, that is, the person, as a diachronous phenomenon of development.

At the stage of alienation, the singular human being is nothing but an abstract expression of man. The realized, individualized and self-referential person, who exists in himself and for himself, co-operating with others, emerges in the last societal stage. The unique societal person is the result of the historical process. Until the free, societal person is a reality, the singular human being is determined by the super singular logic of man. At this stage the person is nothing but an individual.

Looking back at the theories of entrepreneurship, the theory of McClelland, for instance, mirrors the alienation, as he asserts that the singular in the form of the many unfolds the general economic functions.

If we accept that the person is determined by the super singular, that is, if the many are but elements of an economic class, no difficulties arise. If, on the contrary, the person is conceptualized as self-dependent and unique, with personal values and peculiarities, difficulties will arise. This is no problem for Marx, however, because he conceptualizes the virtual self-referential, independently-acting person, ungoverned by any economic law, as the historical end product.

Contentwise, Marx's interpretation of the nature of history is interesting, I believe, because he points to three forms of human existence: the form of production, encompassing innovation, the societal form, in which the persons co-operate in a self-refe-

rential manner, that is, the person directs his own acts; and the form of alienation, in which someone transfers something to another.

It is the form of alienation that makes Marx's theories different from those of Hegel.

A digression to Hegel's concept of man

The dialectic logic of development has its roots in classical antiquity, but it was first formulated as a paradigm for modern thinking by Wilhelm Friedrich Hegel in the nineteenth century. It is Hegel's main point that the history of mankind is the history of the human spirit and not of the human hand. He claims that Good has implanted the embryo of the spirit in man. The embryo develops according to an inner logic, which in a lawful manner transforms mankind through a series of steps towards the final goal which already exists in this embryo.

In conformity with the times, Hegel, like Marx, defines the essence of the spirit as freedom. In *Vorlesungen über die Philosophie der Geschichte*, Hegel [1972] states that man is free or, better, will be free, at the moment he becomes self-conscious, that is, becomes a self-referential being who understands how he has become self-conscious.

This historical process is, nonetheless, laborious and it craves an energy which the spirit does not possess. The spirit, however, is cunning, as Hegel writes. While unfolding, the spirit draws on the inherent resources of human activity. But even if the development is self-referential, it is not human self-consciousness that guides human activity: on the contrary. The development takes place behind the back of mankind [Hegel, 1972].

It is an interesting thought that the spirit, in a deterministic manner, uses the energy of human beings in driving itself forward towards perfection. It is interesting because it hints that the many driving acts - primarily the economic activity of man - appear in exactly the same manner as the nuclear particles with which the classic economy operated. Hegel's individual, not person, is like a particle in a thermodynamic system. The only difference is the logic used to describe the phenomenon. The singular individual might believe that, as a businessman, he decides and judges, but he or she only decides and judges what has to be decided and judged according to historical necessity. In respect of the spirit, the businessman does exactly what he has to do in relation the super singular logic.

However, according to Hegel, not everybody is chosen to be the tool of the spirit. Only those whose activities contain goodness and duty can participate in bringing the spirit towards self-consciousness. For Hegel, these individuals are the entrepreneurs of human existence, those with the greater energy. And they are and have to be great and powerful individuals, because *the driving force has to be great to unfold the great*.

As mentioned above, Hegel states his historical chain of development in three steps. The spirit is an embryo striving to unfold itself, and it unfolds itself by cleaving the concept of man, that is, separating man from man in a *symmetrical* manner, not an *asymmetrical* one, as Marx suggested.

Being in a reflexive relation to another, the individual discovers that he is another for the other. The one and the other reflect each other in a generalized manner precisely as G. H. Mead claims within another logical paradigm. I shall return to Mead later.

However, it is not before the third step is taken that man becomes self-conscious, that is, knowing that he knows that he is something in himself and another for the other. The self-consciousness is identical with the singular bringing itself into concord with the general, that is, the laws of the state. These laws - the general - emerge from the reciprocity between the one and the other as a sort of generalized other, which means that the singular becomes the general through reflexivity.

Bringing himself into concordance with the law, the individual is a citizen, which means that he not only observes the laws of the state, he is, as self-consciousness, the epitome of the laws. He is a person. Being self-referential, the person is an autonomous element in the concept of the state.

Being the epitome of the law, the person is free, not to do what he wants, but to do what is right, and what is virtually true. Concepts like state, freedom, truth and ethics express the virtues of the final step: the idea of romanticism. The state is the freedom of the person.

Analytic and dialectic logical self-reference

Looking at the dialectical construct, we note that Hegel, by stating the emergence of the general that determines the singular, tries to solve the problem phrased by Russell [1919] as the question: whether the set of all sets is itself a set in that set. They both try to describe the relation between the singular member of a class and the super singular class constituted by the singular.

Russell tried to solve the problem by excluding self-referential sentences from his formal system, claiming that the set of all sets - the general, so to speak - is of another logical type than the terms constituting the set, the terms themselves being sets [Russell 1919]. By introducing an object language for the terms and a meta language for the classes, he tries to prevent confusion of the sort that economics encountered in talking about the function and the individual in the same language.

The interesting point, however, is that the dialectic as well as the analytic logic produces a structure, in which the general, constituted by the singular, not only encompasses the singular but also seizes the singular. In logic, the general becomes the power that forces the singular to stay within the limits of the general.

Perhaps the dialectic as well as the analytic logic, in the last resort, expresses control, which means that the forms of reality which can convey meaning to the analytic and the dialectic calculus are the ones determined either by external power or internal rules.

That the dialectic logic encompasses power is not unfamiliar to Hegel, as he explicitly draws attention to the fact that not all human beings become self-conscious, law pervaded citizens. Most people stay in the economic state of self-interest. In relation to these people, it is the duty of the state - the general - to be legislative and the law-enforcer. Those who cannot control themselves must be controlled. Criminal law and civil law are a necessity, as the French structuralist A. Durkheim also stated. I shall return to Durkheim later.

Back to Marx's concept of man

Marx's strength, which at the same time represents his problem, is that he discovers alienation. However, Marx cannot allow that the reciprocity, and, by that, the general, disappears during the period of alienation. There has to be a form of existence that maintains the mutual connections between the individuals. Marx looks around and appoints the exchange at the market place to be this form of existence.

According to Marx, however, we have to realize that the individuals, not the persons, exchanging at the market place are posited in an external manner. They are not for each other, but only the one *and* the other having each other as objects. Decision making and judgement, that is, direction in a risky field, is nothing but an individually experienced, economically determined necessity. The businessman does what he has to do because there must be someone who acts in this way in order to attain societal freedom, in which virtually free decisions can be made. The businessman is nothing but an accidental expression of the economic laws, for which reason the psychological phenomena in the last resort are elements of the economic classes. Within the realm of Marxism a psychology of the individual can be constructed, but not a psychology of personality.

The positive thinking of Comte penetrates Marxism

This interpretation of Marx's philosophy is quite different from that of Sève, for instance.

L. Sève, who has a profound knowledge of Marx's texts, converts the conception of the diachronous relation between the super singular and the virtual person to a synchronous relation between the self-referential person and a super singular society.

According to Sève [1975], the person and the society, that is, economic reproduction, are juxtapositioned in the same way as two engaging cogwheels. The person interacts in a self-referential manner with the society which determines the person.

One of the reasons why Sève and others synchronize the person and the society could be that they do not detect that the analytical unit of Marx is the class and not the person. It is the objective of these theorists to develop a psychology within the frame of dialectic and historical materialism. They would like to produce a psychology that can explain the behaviour of the person living in an alienated society. Therefore they need a concept of personality, and are forced to invent such a concept within the realm of Marxism.

Another reason why Sève and others misinterpret Marx, at least in my opinion, could be that they are affected by the scientific tradition founded by the philosopher August Comte.

Comte [1970] does not disagree with Marx in claiming the history of mankind to be causal, going through successive stages. He also thinks that mankind has a natural foundation of development - a civilization - which determines the order of society, appearing as a political order. The person is subjugated to this natural history for ever. What can be said about the person can never be substantiated by the persons themselves, as they only have subjective experiences. The sciences of the individual are biology or sociology. Psychology, according to Comte, is not a science, because the subjective experiences cannot convey meaning to a calculus, a problem which E. Durkheim remedies, as will be shown, by introducing a psychological layer into the hierarchy of Comte.

The so-called Marxian comprehension of the relation between the singular and the super singular is a mixture of dialectic materialism and positivism. Where Marxism takes care of the historical logic of development, positivism has the task of modelling the synchronous interaction between the person and the society. This construction is necessary if the person is to play an independent role during the period of alienation, but it is also the very beginning of the problem concerning the relation between the singular and the super singular:

Interaction is not dialectic

I am fully aware that Marxian psychologists do not accept such an interpretation of their work. They refer to the existence of a dialectic interaction between the person and the society. But the concept of 'dialectic interaction' is cryptodialectic: under no circumstances does it have anything to do with the dialectic logic. If dialectic interaction exists at all, it is in the form of either the asymmetrical contradiction between capital and work, as elaborated by Marx, or the symmetrical contradiction between something and the other of this something, as elaborated by Hegel. Dialectic is a form of logic development, existing within a single concept. It is a logic which conceptualizes the single but all encompassing concept by claiming that the concept is split into two symmetrical or asymmetrical identities, while simultaneously remaining intact as a concept. Dialectic is not about relations between independent concepts, but that is exactly what logical positivism is. However, both have the nature of a calculus.

In the following section, I will use another source for the conceptualization of the relation between the singular and the super singular in order to penetrate the knowledge which I believe to be hidden in the thoughts of Marx and Hegel. The most obvious source is one of the most influential, at least in Danish psychology: A. N. Leontjew.

Leontjew includes the person in the historical materialism

Lenin's interpretation of the relation between reality and consciousness is the key to the psychology of Leontjew. In *Materialismus und empiriokritizismus* [1971], Lenin claims that psychology is the science which considers the way in which the person reflects objective reality at different levels.

The fundamental structure of Leontjew's theory, described in *Probleme der Entwicklung des Psychischen* [1973], is fairly simple. The person enacts his environment, and during this process, the person's consciousness *reflects* the external objects, that is, things and other persons. Simultaneously, the consciousness reflects the objective relation between the person and the object. As it is the objective reality that determines the consciousness; it is necessary to conceptualize this reality.

Work is co-operation

At first, Leontjew defines the fundamental human activity as *work*. Work equals production of tools, by means of which other objects, useful to the person, can be produced. Subsequently, he defines the fundamental human activity as co-operation in which the work is executed, claiming co-operation to be the foundation of work [Leontjew, 1973].

Leontjew's point in emphasizing the division of work as the prerequisite of human existence, is that the division of work implies a separation of the goal and the motive of the person.

The textbook example of the goal-motive separation is hunting, in which the beater frightens the prey into moving away from him, towards the marksman. The goal of the beater is to drive the prey towards the marksman, while the motive, naturally, is food, fur for clothing, etc. The ability to reflect this separated form of activity is exactly what characterizes the human form of consciousness.

It is, however, not a synthetic logic of integration, but an analytic logic of identification which is Leontjew's paradigm. In modelling the division of work, the hunters are conceptualized as being identical in their mutual use-value. Even if the hunters integrate different activities in a synthetic manner, hunting is modelled as a symmetrical relation between individuals: the beater reflects the marksman and his own and the marksman's common striving to satisfy some basic needs, and that naturally applies to the marksman too. They mirror each other by reflecting each other as hunters. They are not integrated as beater and marksman.

It is very important to note this detail. Leontjew builds his theory on the assertion that acts are integrated, while the logic used in modelling this integration is a logic of identification. In doing so, he makes the fact that the marksman and the beater are identical as hunters the fundamental issue of the hunting, and not the fact that the activity of the marksman and the beater are integrated in the prey.

The reason for this kind of modelling is to be found in Leontjew's intentions. He would like the symmetrical, self-referential relation between individuals to exist in all historic stages, a relation that, according to Marx, only exists in the final societal stage.

Leontjew brings back the entire historical paradigm of Hegel, but in a synchronous and individual manner. By transforming the class individual into a living person, Leontjew creates a division between the singular and the super singular that does not exist in the theories of Hegel and Marx. In doing so, he creates a problem for himself, as he has to argue for the autonomy and the social determination of the individual simultaneously, that is, creating the well-known problem of entrepreneurship.

Leontjew tries to solve the problem by constructing a very complicated interaction between what he calls subjective sense and objective meaning.

Expressed simplistically, the objective meaning can be conceptualized as language. Language, that is, the general classes, emerges from the symmetrical relation between co-operating individuals. Language already developed is appropriated by the person while he or she grows up. As a beater, for example, the young man learns to do what makes subjective sense to him in a conscious manner by means of language, that is, the objective meaning. The person is not just determined by the super singular language, but has to make an effort to be subordinated to the greater system. The youngster not only apprehends the systematized categories of language, but also the rules that join the classes into a procedure for acting, for which reason he can participate in the hunting. The person can administer his life under the control of language.

Language, that is, general terms and rules, has the same status in Leontjew's theory as the law has in Hegel's theory. Language, developed through symmetrical reflection, is the general that determines the person and makes him able to calculate, that is, repeat an act.

For Leontjew, language is not the means by which the person is able to organize a complex reality in a synthetic manner, but the means by which he can calculate and take possession of reality in such a way that acting procedures can be repeated in a general manner. Language is a super singular administration of reality. But Leontjew's person is not necessarily free because of language, in the same way as Hegel's individual is free because of the state.

Work is more than co-operation

Leontjew has to harmonize his project with the developmental logic of Marx.

The first step, in Leontjew's integration of the person and the developmental logic, is the assertion that a spontaneous concordance exists between subjective sense and objective meaning in primeval communism. Anything that is good for all, is good for the individual, and vice versa. The symmetrical state of equality, however, does not last. Leontjew does not tell us why, but somehow history introduces an inequality between human beings in the form of private property and unequal division of work. This inequality determines a change in consciousness. From being in a state of concordance, the consciousness becomes cleaved, because the person produces wealth for the other, while what makes sense to him is to produce wealth for himself in co-operation with the others.

It is, however, impossible to stop the progress of reality. The contradiction between objective meaning and subjective sense will eventually become so pronounced that the truth can no longer be hidden. The truth will emerge, and the workers will join forces and re-create the concordance between subjective sense and objective meaning in the form of a socialist and a communist society, respectively. The primeval equality, and by that the concordance between subjective sense and objective meaning, is re-created at a higher level. From then on, the person joins the free symmetrical community where he can plan the future, that is, use the possibilities embedded in non-contradictory language to calculate and to create order in the environment.

The particular in Leontjew's model of the historical logic is his assertion concerning the ability of self-referential persons to thrust society through its different phases. But, as Leontjew introduces the person with a will of his own, he produces a dichotomy between the singular and the super singular, whether the super singular is of a symmetrical or an asymmetrical nature. This dichotomizing itself calls for a solution, because history still needs an inevitable ending: communism. The solution is reached by upholding Lenin's and Comte's assertion that the person is determined by society. But in doing so, Leontjew states that the person does what he has to do of his own free will.

This contradiction more than hints that it might pay to consider other solutions concerning the problem of the relation between the singular and the super singular.

I am now leaving the dialectic logic paradigm to analyze some theories representing the analytic logic paradigm, in order to show how this paradigm posits the relation between the singular and the super singular.

Durkheim posits the relation between the person and the social structure as a hierarchy

In the late nineteenth century, the French structuralist, E. Durkheim, wrote his epoch-making work concerning, among other things, the division of labour. He knew Marx's suggestions regarding the subject matter, but still, in *Les règles de la méthode sociologique* [1973,a], he wrote that Comte was the only one to have advanced any original ideas concerning human existence.

Durkheim's point of departure is an assertion about the subject matter of sociology, saying - to start in a negative manner - that it does not encompass what people do in general: sleeping, eating, thinking, etc. [Durkheim, 1973,a]. The subject matter of sociology only includes the set of phenomena existing outside the person, such as, for example, the sign system, the money system and the behavioural patterns of different occupations.

Durkheim advances the idea that the super singular social system is different from the common qualities or abilities of the many. He claims that the economic functions are super singular entities and not just general expressions of the many.

Further, it is Durkheim's assertion that the virtually super singular determines the singular when this singular, that is, the person, acts in concordance with the super singular. This means that the person has only incidental influence on the super singular. The entrepreneur, for example, is insignificant as a person. He does what the economic function determines him to do. Ergo! Exit the complicated relation between the singular autonomous person and the super singular economy despite anything economics or psychology might say concerning the problem. The problem is solved: when modelling the economic relations, one can be certain that the person is determined, and when modelling the person, one can presuppose that economy does not determine the person who unfolds personal abilities.

Where the super singular is the world of the singular in the classic dialectic, the super singular is outside and above the world of the person in Durkheim's - and Leontjew's - theories. In accordance with Russell, the super singular is of another and higher logical type than the singular, and simultaneously the singular, in the form of the person, is something that has nothing to do with the super singular as such. It could be argued that the singular is a private person and an economic individual.

And yet ... the super singular social structure emerges from the singular mind. It is the minds of the persons that constitute the super singular. By mixing with and influencing each other, the minds of the persons generate a super singular singularity of a new kind [Durkheim, 1973a]. The manner in which the super singular emerges has a history that starts in the singular person.

It may be possible to dismiss the problems of entrepreneurship *when* the human existence has been structured, but *during* the genesis of the structure the problems still exist. At the very least Durkheim has a phase transition problem. He has also, of course, difficulties in determining when the person is a private person and when he is just an individual in the super singular class.

At the crossroads?

In *The conflict between Aristotelian and Galileian modes of thought in contemporary psychology* [1935], K. Lewin points out that the greater part of psychology builds on the Aristotelian principle, saying that things have an immanent nature. Aristotle's stone, for example, falls to the ground because it is the nature of the stone to be heavy. The Galileian object 'falls' because of the relation - mass attraction - between one object and the other.

Durkheim staged a Galileian rebellion against Comte, who believed that the generator of human existence, the social instinct, increasingly realizes its immanent nature. Instead, Durkheim claims that the act of the person has to be explained in relation to the social structure. The small singular mass is drawn relentlessly towards the greater super individual one.

But Durkheim takes his argument a step farther, as he believes that the social structure, emerging from relations between persons, has a counterpart in personal consciousness. Consciousness emerges from the primary elements, that is, what the person senses: his reflexes and instincts. Durkheim believes that the singular consciousness - the 'I' - emerges as a structure following the same logic as the super singular [Durkheim, 1973a].

This concept is a breakaway from Aristotelian as well as Galileian understanding, and leads towards Prigogine's thinking. Prigogine argues that superior structures emerge spontaneously through dissipation of energy in physical as well as social systems far from equilibrium [Prigogine & Stengers, 1985].

Durkheim introduces the thought that the singular as well as the super singular is created through certain identical self-organizing processes. The geneses of the social structure and the 'T' follow a logic in which higher forms are developed from lower.

Hegel uses a similar logic, as he believes that the thesis-antithesis-synthesis logic creates still higher forms of existence. In Hegel's system, however, the different steps of development remain embedded in the process through *Aufhebung*, while each step in Durkheim's system is independent, with its own peculiar features. The developmental logic is the same in the person and the social system, but it works within different subject matters.

Durkheim has discovered something new. The question is whether he succeeds in solving the fundamental question examined here.

The relation between the singular and the super singular is a part-whole relation

In the book *De la division du travail sociale* [1973b], Durkheim claims that social relations and division of work are the same, but, in contrast to Marx and Leontjew, for example, who emphasized material production and cognition, he makes values the central issue of his analysis.

The point of departure is the law, inasmuch as social structure cannot be stabilized without the law. As the law exists in two different forms - criminal law and civil law - social structure has to exist in two different forms.

The first form, based on criminal law, Durkheim designates mechanical solidarity through equality. Mass movements and the most primitive societies build on this principle according to Durkheim [197b].

Criminal law is the higher logical type - developed through interaction - that upholds the borders of the class and keeps the members of the class within these borders. Durkheim thus thinks that mechanical solidarity is a movement from the parts to the whole in the form of self-organizing. Durkheim himself argues that a society determined by criminal law resembles a piece of iron, in which the individuals are like the atoms, while criminal law is the piece of iron itself. The analogy builds on the statement that the sum of the interacting parts - the identical individuals - is something other than, and something more than, the sum of the parts, namely the law.

The problem of the analogy, however, is that it becomes instantly false when criminal law is introduced as a controlling force. As E. Purcell [1968] points out, the crystalline form, for example, does not determine the interacting molecules. The crystal is a pattern of movements, inasmuch as each molecule adjusts itself in relation to its immediate neighbours. The crystalline form could be called mechanical solidarity, but the molecules are not determined by a super singular law. The crystal does not have any control over the molecules. The crystal is nothing but a pattern of movements.

To claim mechanical solidarity, that is, the reciprocity of the elements, and criminal law simultaneously, is a contradiction. Durkheim creates this contradiction because he mixes power and social patterns of movements. It is one thing for people to move into harmony with each other, and, because of that, act identically, but it is quite another matter if people are brought to act alike by outer control, even if the power of control emerges from a primeval harmony.

Mechanical solidarity is, however, brought to an end historically because 'the survival of the fittest' governs society. Each person survives by doing what he does best, and, because of that, society has to leave the form of mechanical solidarity. As the mechanic nature has to develop organic forms, the natural law of survival transforms mechanic solidarity into organic solidarity.

It is the idea behind organic solidarity that the division of labour determines the act of the person. When a person grows up in a society governed by the division of labour,

that person will move towards the function in which his or her abilities show to best advantage. Durkheim thus makes room for ability research in claiming that the persons are driven towards the economic functions because of their abilities. He does not believe, however, that competition regulates society. Should any dispute occur in his system, civil law will regulate the relation between the functions, whereupon harmony is reestablished in the form of an agreement [Durkheim 1973b].

The persons can thus collaborate in two different ways: in an associative manner, in which the functions are identical, and in a co-operative manner, in which the functions are different. These social structures appear as mechanic and organic solidarity, which are natural laws of values.

Like Hegel, Durkheim claims, however, that the generalized interaction is identical with the super singular power of control. In doing so, Durkheim, like Hegel, confuses social existence with social power.

In spite of this, I believe that something new is ready to emerge. In claiming that the society and the 'I' emerge through self-organizing, Durkheim is, in a Prigoginean manner, bound to explode the Aristotelian and the Galileian mode of thought, even if he still tries to squeeze his cognition into the form of the analytical calculus.

This phraseology is still rather vague, but perhaps the American sociologist C. Horton Cooley can be of some help, by offering a dynamic counterpart to the structural thinking of Durkheim.

Cooley equalizes the person and the social processes

In his book *Social organisation - a study of the larger mind*, Cooley [1972] does not distinguish between the super singular and the singular. He believes that in studying the social mind, we direct our attention towards wider aspects and relations of human existence than we do when studying the personal mind.

Durkheim and Cooley agree on the existence of something larger than the person. Cooley, however, does not think that the social structure determines the person. He believes that the social processes are more comprehensive than the personal processes, but they are not something else. The personal and the social processes are both mind. The only reason why a difference seems to exist, is that processes can be approached from different angles. The social processes are, so to speak, measured by a yardstick other than the person [Cooley, 1972].

This is a new solution concerning how to link the super singular and the singular. For Cooley, the person is neither different from the social structure, as Durkheim, Comte and Leontjew believed, nor embedded in the state, as Hegel claimed, nor emerging from the *Aufhebung* of the alienation, as Marx thought.

The solution implies that Cooley sets out to conceptualize the dynamic of human existence, and not the subject matter of sociology and psychology. It is not the double character of human existence that leads to the two sciences, but the sciences that divide the human existence. This means that no relation between the singular and the super singular exists.

In his analysis of the social processes, Cooley fixes his attention on the symmetrical form of interaction between singular persons, but he emphasizes that these exchanges comprise dynamic connections, constantly forming themselves into a whole.

It is the strength of Cooley's thinking that it allows for personal self-consciousness when reasons are needed for the processes of human existence. Durkheim, for example, had to count on undetermined forces: mechanic and organic solidarity, when explaining the emergence of general values. Cooley can work directly with human rationality in his conception of values, although he believes that the mind has to appear from an unconscious foundation [Cooley, 1972].

This addition implies that any social phenomenon has an unconscious natural start. Everything begins unconsciously, like the inspiration of the artist, but through an

interactive process of cognition, the unconscious becomes conscious, and therefore usable in the rational direction of social processes.

The fundamental difference between Durkheim's and Cooley's emerging values is that Durkheim's values emerge from natural necessity, for which reason they are identical for all mankind, that is, *global*; while Cooley's values can be different from group to group, that is, *local*.

Scaling might be an answer

With Cooley, it can be argued that the analytic and dialectic forms of super singular generalization are not the only possible descriptions of human existence.

His way of thinking suggests that the solution may be an assertion claiming that human existence is but one phenomenon which can be observed from different distances. The difference - and not the relation - between the singular and the super singular or rather the more comprehensive singular, is a scaling phenomenon.

That a difference springs from a scaling means that it is the distance to the observed phenomenon that makes the difference, and not the phenomenon itself. The observer-observed relation can be described as a text-context relation which is a scaling phenomenon. In the text: the supervisor saw that the teacher observed that the mother watched the child, the text: the mother watched the child, is encompassed by the context: the teacher observed (...), which as a text itself: the teacher observed, that the mother watched the child, is encompassed by the context of this text: the supervisor saw (...).

I shall return to this phenomenon in connection with my discussion of the discontinuity theory (see part II) and perspective text analysis (see part III). The foundation of the text-context relation is formulated by B. Bierschenk [1984, 1991] on the basis of Kant's synthetic schema [1975] in the model:

(int(A)) a (ort(O))

The model sets out that an intentional agent (A) in an oriented manner enacts (a) an object (O) in (AaO) units.

Given this schema, which is the synthetic way of binding prototypical categories, the example has, at the large scale, the form:

(Aa(Aa(AaO)))

The AaO schema is iterative and constant across the scales where (Aa(...)) is the context of (AaO).

Mead posits the person as a part of the social process

In his book *Mind, self and society from the standpoint of a social behaviorist*, George Herbert Mead [1973] claims that no sharp limit can be drawn between the social and the personal. In that respect he resembles his predecessor Cooley. It is, however, his belief that the behaviour of the person expresses the organized behaviour of the social group. According to Mead's social psychology, the social group has some active persons that are active because of the social group. So...the whole has the upper hand of the part without being quite as deterministic as Durkheim proposed, but in many respects this is, however, a consistent development of Durkheim's concept, with the reservation that Mead, like Cooley, is more interested in processes than structures.

The most dominant feature of Mead's mind theory is that it stresses the spontaneous and local interaction between people. In local interaction, which represents symmetrical communication, the general emerges as symbols and becomes the systematizing principle of co-operation, which means that the whole guides the parts. The whole, or the

generalized other, is an emerging product of reflexivity. It represents the attitude or the common conduct of the co-operating persons.

The generalized other is not mind in Cooley's sense, but encompasses what one does, which implies the way in which one thinks and the content of one's thoughts. Mead's belief, however, also includes the ability of the person to reflect, that is to decide whether something implies something else [Mead, 1973].

This mind ability, dividing the human being from the animal, expresses itself in symbolic language. Mead's person is able to unfold a calculus in the form of premising speech, just like Leontjew's. The person knows how to reproduce an act. If the premising speech is directed towards the speaker himself, he is self-referential. It is because of this symbolic self-reference that the social process is brought into the person's experience of himself and the others. In his complete development as a self, the person encompasses a conception of himself determined by his conception of the others' conception of him in relation to the generalized other, that is, the common attitude of the group. Being able to reflect himself and the others in a conscious manner, the person can finally adapt to the social process in a calculating way [Mead, 1973].

Thus Mead introduces the spontaneous group formation as his fundamental assertion, but, beyond that, the calculus takes over as the leading principle, explaining reproduction, self-reference and social adaptation. The calculus emerges from and regulates the social process.

Even if Mead takes social self-organizing as his starting point, and, like Hegel, claims the general to be an emerging phenomenon, the rules of cognition and social existence are those of analytic logic. In the end, intentionality becomes calculative control of future events.

In many respects, Mead's construction is identical to Hegel's. The Hegelian teleology is, however, removed from Mead's conception and concurrently the *global* becomes *local*. Where Hegel's system is global in its logic, as well as in its ontology, Mead's system is only general in its logical form. The good and duty are the good and the duty of the group and not an inherent quality of the state. Mead's analysis represents a *local*, analytic logic and a synchronous version of Hegel's *global*, dialectic logical and diachronous thinking.

The interesting feature of Mead's theory is his assertion concerning the local group formation. He introduces the group as the super singular phenomenon. He does not solve the problem of the relation between the singular and the super singular, but he shows that it also exists in a local version. In this respect Mead's thinking resembles Feuerbach's.

A digression to Feuerbach

L. Feuerbach, the mentor of Marx, attacked Hegel for identifying logic with ontology [Feuerbach, 1975a]. Feuerbach thought that any object has an essence and a form of manifestation. The essence is identical for objects of the same sort, but the objects differ in the form of manifestation because of the environment.

Hegel was interested in elaborating the logic of development in general. He claimed that any object is a part of the same universal logic and that any object will eventually find its own general form, that is, its truth, as he called the virtual existence of the general. Feuerbach, on the contrary, tried to discover the inner regularity in the diversity. For Feuerbach, the object will never reach a stage of truth, because truth is an epistemological phenomenon. Truth is something the human being can search for, find and certify in the nature itself. And it is in this connection that he formulated the materialistic proposition that consciousness emerges from being and not vice versa. [Feuerbach, 1975b]. This means that consciousness is nothing in itself. It cannot construe the environment, add or subtract any essentials from this environment. Consciousness is an invariant transformation of the physical environment into the metaphysical. In the work of Pribram [1986], for example, this thought is repeated in a more modern version, as he claims that the brain processes preserve environmental invariants. In this connection the interesting

point is that the human essence remains invariant in its transformation to personal consciousness, the human essence being the co-operation, that is, the relation between 'you' and 'I' [Feuerbach, 1975c].

It is not the many singularities that produce the super singular: it is the co-operation that emerges as the singular consciousness of the person. The essence of mankind is social existence, generalizing itself in the persons.

Feuerbach is interesting because he emphasizes that social development and knowledge are local phenomena, and that the relation between 'you' and 'I' transforms itself into personal forms of thought. Knowledge of human existence emerges through interaction, in what could be called the natural language of the dialectical processes regulating co-operation. All that is generally human because of the relation between 'you' and 'I' appears as personal consciousness. Social relations for Feuerbach have the same status in his theory as the unconscious has for Cooley's.

Feuerbach points out that the general in human existence emerges from the interaction. It is not consciousness that deduces the general by abstraction. Feuerbach thus claims that the foundation of consciousness, that is, the person, is the prototypic category and not the abstract class. And, at the same time, he claims, as Mead did, local interaction to be the basis of the social as well as the personal existence.

Feuerbach's thinking is in some respects the dialectical counterpart to Mead's analytical thinking, but in emphasizing what I have called the prototypic category of natural language, his theory avoids being caught up in the relation between the singular and the super singular. The problem - for economics at least - is, of course, that the super singular can no longer be conceived of as a thermodynamic system close to equilibrium. But perhaps it is not.

Fundamental concepts

Among the theories analysed above an agreement exists (given an sufficient level of generalization), which says that the symmetrical interaction creates the general, that is, state, language, group values, consciousness or something else. Common understanding across paradigms and descriptions shows that there is something or other which can be put into speech - or at least has been put into speech - in a particular way, even if it has been approached from different points of view. The symmetrical form of development is one of these.

When everybody insists on the existence of a phenomenon, it is wise, I think, to investigate a little closer. In part two, the phenomenon, which I call correlation¹, will be modelled as the developmental form in which human existence is systematized through production of general categories.

It is also significant that only some of the theorists claim the symmetrical relation between persons to be the basis of the relation between the singular and the super singular. Marx, for example, thinks that the asymmetrical form of development has this position. The question is, however, whether either relation has a naturally privileged position, or whether both viewpoints can be accepted by claiming that they exist on an equal footing. I think that both should be accepted.

I claim that a developmental form, which I designate *Canalization*, exists. Canalization will be described in part two as perspectivation through transference.

The last form of development existing in all the theories is called *combination* by Mead in *The philosophy of the act* [1972]. The interesting point in Mead's conception of combination is, however, that combination is modelled as a *social* process in which objects are integrated into something new. According to Mead, combination means that the one and the other are integrated during the activity.

¹ To avoid misunderstandings, I would like to point out that correlation does not, for example, refer to the association between stimulus and response [Sommerhoff, 1968].

Unlike Mead, Marx and Durkheim, for example, claim combination to be an act of the person. It is the singular person who is productive. It is, of course, correct that Marx and Durkheim claim that production is societal, but the societal quality of production is not production itself but the production relations that are the asymmetrical alienation and the symmetrical co-operation. Combination is not a social form of development but an individual precondition.

Despite differences, however, combination is a common concept in all the theories.

I therefore claim the existence of a third form of development, called combination. Combination will be described in part two, in the form of innovation, that is, organizing something into something else.

Concurrently, I think that it is necessary to disengage the fundamental forms of development from their present theoretical bindings. If the problem of the relation between the singular and the super singular is to be solved, the dialectic as well as the analytic logic has to be neutralized in order to free other forms of description concerning correlation, combination and canalization.

The inheritance from Mead

T. Parsons is one of the few to take over from Mead. For the most part, role theory has replaced Mead's theory. For Mead life was the virtual existence. For even the best of the role theorists, Merton [1968] for example, life became abstract theatre, recognizable in the entrepreneurial ability research.

In a series of articles later published in the book *Social structure and personality* [1970], Parsons advances the opinion that Freud's theory of child development in the form of the Oedipus complex could complete Mead's conception of human existence. In this connection Freud is interesting because he highlights the same fundamental forms of development from a psychological standpoint.

Freud individualizes the relation between the person and the culture

Like everybody else, Freud makes the production of necessities the precondition of human existence. His point of departure is, however, the question concerning the meaning of life. The answer is, as he writes in *Das Unbehagen in der Kultur* [1948], the quest for happiness. Unfortunately it is not so simple to be happy and certainly not to sustain happiness. As everybody wants to be happy at the same time - willingly at the expense of others - it is necessary for human beings to develop a culture that can regulate their mutual relations. Consequently human existence will forever be a fight between the personal and cultural demands.

Two solutions: ego ideal and superego

According to Freud, the fight between the singular and the super singular has two solutions. The first one builds on the assertion that the super singular Christian commandment that thou shalt love thy neighbour as thyself can only be realized if the neighbour in almost all important spheres looks like oneself, in such a perfect manner that the person can love an ideal image of himself in the other [Freud, 1948]. The part of the I structured as an ideal is called the ego ideal.

The ego ideal being different from the reality-oriented 'I', and yet part of the 'I', is fundamentally identical with Mead's generalized other. Where Mead, as a sociologist, calls attention to the singular existence of general values, Freud, as a psychologist, points to the general existence of individual values.

The second solution departs in the assertion on how difficult, even impossible it is to love one's neighbour when the neighbour is one's enemy.

In the modelling of emnity, Freud leaves the symmetric form of human existence and moves on to the asymmetric.

Freud cannot, of course, find an explanation for the peculiar nature of asymmetry in the social existence of mankind. He has to find a solution rooted in the basic drives. Thus, he claims that aggression is a part of human nature. When the employer exploits the employee, it is because of natural aggression, which is an inherent quality of human beings [Freud, 1948].

In solving the problem rising from the antagonism between aggression and the necessity of co-operation, Freud claims that externalized aggression is turned round and internalized, consolidating itself as the superego, which is a part of the 'I'. In the capacity of superego, the 'I' castigates itself in the same way as a garrison keeps a captured city in check [Freud, 1948].

In Freud's theory, the symmetric form exists as an ego ideal, while the asymmetric form exists as a super ego. The person does not beat his enemy, but controls himself. The person does not become aggressive towards his master but builds a slave and labour mentality.

Freud claims that the solution of the Oedipus complex, that is, the super ego, implies that the person can live peacefully with those to whom, for various reasons, he is subjugated. This means that Freud transforms the asymmetric relation into a symmetric relation, inasmuch as the person should apparently be able to act as if he is a 'symmetrical' person in the asymmetric relation. He can, by suppressing his true nature, encompass his own negative expression, 'the enemy', with a love that only the beloved object is entitled to. The Oedipus complex endows the person with an ability to be able to stay in an asymmetrical relation without being subject to outer forces.

Freud highlights the singular form of the super singular. Culture exists, but only in the form of singular. Culture is a burden, but it is not driven by a super singular lawfulness. If anything is general, this is caused by the fact that the Oedipus calculus is the same for everybody.

Freud enlarges the singular to culture, a way of thinking that was paradigmatic in the entrepreneurship theories that built on the Freudian calculus. In this respect he resembles Weber, who, however, replaced the calculus with statistics.

Weber's person is an active particle in a super singular process

Marx Weber is well-known for his description of the way in which Protestantism gave rise to capitalism, and for his analysis of the goal rational bureaucracy. Weber is thus preoccupied with power, control and management, but it is however the sense-making goal- and value-rational act that makes up the foundation of his theory.

The sense-making goal- and value-rational act is social insofar as it conforms with the goal and value rational act of others [Weber, 1972]. According to Weber, the act is the basis of human existence. Any 'super singular' phenomenon is a compound of singular acts. Consequently, his methodological foundation is statistics. By means of statistics, Weber examines whether sets of identical or nearly identical acts exist. If a set can be found, it is a social phenomenon. Weber thinks that sociological phenomena are to be treated as ideal gases determined by boundary conditions like temperature, volume and pressure. Virtual sociological phenomena are, however, not ideal for which reason they only exist by approximation in the form of statistics in which minor differences are equalized. What Durkheim denied any social status in his theory is the very social phenomenon of Weber's.

One of Weber's essential, ideal types is that of power. Power, for example, is unfolded by the charismatic personality. It is, however, essential to recognize that charisma is not a personal quality, but a relation in which someone makes the goal and value rationality of the 'leading' personality his/her own. The 'leader' is the leader because his sense making acts makes sense to his followers. When Luther, for example, stood up to

the Catholic church, he became a charismatic personality because the many made his values their own.

When Weber talks about power and control, he does not think that anybody stands above anyone else, or that something super singular regulates the singular. He only claims that one person acts parallel to another, and should parallel acting become conscious by the many and accepted as a norm, an order is established in which the law is the legitimate power regulating relations between the persons.

Even in a legitimate order, disagreement can arise, but, if it does, the reason can be found in the fact that the norms no longer make sense to a person, therefore he acts differently. As a rule, however, the deviations will equalize themselves. In accordance with modern physics, one could state that fluctuations can arise in a stable system but eventually they will be absorbed into the system itself.

The logic of reconfiguration

Weber's thinking on the 'super singular' as common goal and value rational acts implies that the super singular is to be conceived in the same manner as the singular [Weber, 1972]. Nothing is above the person. Social existence is a parallelizing of personal acts into classes existing and influencing each other.

The social classes do not develop according to a hidden historical logic. They rise and fall, and no one class is more ontologically true than others. The quantitative unfolding of human existence would, however, come to a standstill if no form of driving forces existed. Something extraordinary has to exist to tear an obtained consensus apart. The mighty force is caused by the scarcity of resources. The singular person, as well as 'super singular' formations, fight for existence. Furthermore, because of the fight, only the fittest will survive. This way of thinking implies, naturally, that Weber's concept of history looks quite different from Marx's, for example. According to Weber, a state, a society, a person can reconfigure. The most famous reconfiguration is the societal transition from feudalism to capitalism. In his book *The Protestant ethic and the spirit of capitalism*, Weber [1930] explains how in his opinion, this transition took place.

First he describes how a society exists, following some sort of routine. The weaver, for example, lives in the countryside and brings his cloth to the town. A businessman buys the weaver's goods and sells them to his customers. The customers then order next season's cloth, which the businessman asks the weavers to produce. Everything works out according to routine. Neither the producer nor the businessman nor the customer overexerts himself, because they are all accustomed to that way of life. At some point, however, an innovative mind discovers a way to systematize production, because of which the weavers can mass produce at a lower cost. The new way of production sharpens the competition, but the essential is that it creates a new spirit - the spirit of capitalism [Weber, 1930]

The unique feature of Weber's theory is that it neither settles for the analytic nor the dialectic calculus as the logic of human history. At first, Weber's thinking seems to include just a minor change from a super singular principle of development to a singular selection mechanism, but, his theory points to a relation between cause and effect that the other theories do not encompass.

Hegel, for example, claimed the historical giants to be the instrument of the spirit. Marx believes the proletariat to be the mighty force that would revolutionize society, or, to put it in another way: only a great cause can evoke a great effect. Weber, however, claims that a small cause can have a great effect, and this is not in accordance with the principle of proportionality in the calculus of causality. Concurrently, he states that the effect is unpredictable as a society can reconfigure because of a change in a singular element.

That the outcome of an event can be different from the expected one, if minor changes are made in the set-up, has in later years been one of the main interests of complexity theories. They claim that a physical system far from equilibrium can change in an unpredictable manner and yet be stable [Gleick, 1990].

Weber used statistics in describing his models. I think it might be useful to consider whether certain modern complexity theories could be used as tools to solve some of the problems considered here. It is, of course, necessary to be cautious when introducing new modes of thought, as new paradigms can create more confusion than order. Nevertheless, in the second part of this analysis, I hope to be able to show that some of the complexity theories are fairly good at modelling the uncontrolled social life.

Closing remarks

It is my opinion that the problem posed by theories of entrepreneurship cannot be solved within the classic theories. The major problem is that these theories, with a few exceptions, have merely asked in what way human existence is controlled. These theories have looked for natural laws or institutions emerging from human existence itself.

Marx, Hegel and Comte, for instance, claim, within different paradigms, the iron law of historical logic, and Leontjew, Durkheim and Mead posit the super singular as institutional determining. The autonomous person is, of course, introduced, but he is in some way or other subordinated to the greater power, that is, without responsibility..

Evidently the analytic and the dialectic logic, being the matrices of the theories, are able to explain the forms of existence under control, but the underlying stream of uncontrolled, and, I think, uncontrollable social processes is not conceived as anything but a prerequisite of the control processes.

The uncontrolled social processes, which do not develop super singular forms of control, and even evade control, have not been favoured to the same degree as the controlled.

Cooley and Weber represent the exceptions to the rule of determination. The problem, however, in utilizing Cooley's assertions in describing and explaining human existence is that his thoughts are not transformed into a theory, that is, into the form of a logically or empirically coherent set of concepts. The problem in using Weber's theory is that social coherence is dissolved in statistics, which cannot explain anything at all.

Therefore, I believe it is worth trying a new path in order to obtain a more profound understanding of the uncontrolled human existence. Perhaps the modern complexity theories will be the fluctuation that triggers a different modelling of the not only autonomous but responsible person.

But...what about the knowledge which philosophers have laboriously wrung from reality? Is it all to be discarded? Of course not. Even if, in my opinion, they over-emphasized the significance of analytic and dialectic logic in solving the problem of the relation between the singular and the super singular, there can be no doubt that they point to some fundamental forms of development: *canalization*, encompassing transference of something from one to another, *correlation*, encompassing reciprocity being the basis of generalization and *combination*, encompassing the production of the new. They also point to self-reference, although this concept does not have a completely transparent status in all these theories. Finally the theories brought the fact to attention that it is necessary to determine whether human existence is to be viewed in a local or global perspective.

In part two, I will try to show how the prerequisites of conceptualizing the developmental processes of human existence can be described in a manner that preserves knowledge already produced and, concurrently, how the fundamental problem of the relation between the singular and the super singular can be solved.

References

- Aldrich, H., & Zimmer, C. (1986). Entrepreneurship through social networks. I: D. Sexton & R. Smilor (Ed.), *The art and science of entrepreneurship*. New York: R.Balling.
- Begley, T.M. & Boyd, D.P.(1987). A comparison of entrepreneurs and managers of small business firms. *Journal of Management*, 13(1), 99-108.
- Bierschenk, B. (1973). *Datorbaserad litteratursökning*. Lund: Studentlitteratur.
- Bierschenk, B. (1984). *Steering mechanisms for knowability*. Cognitive Science Research, nr.1. Lund University.
- Bierschenk, B. (1991). *The schema axiom as foundation of a theory for measurement and representation of consciousness*. Cognitive Science Research, nr.38. Lund University.
- Bohm, D. (1990). *Wholeness and the implicate order*. London: Ark Paperbacks.
- Brockhaus, R.H. (1982). The psychology of the entrepreneur. I: A. Kent & D.L. Sexton & K.H. Vesper (Ed.), *Encyclopedia of entrepreneurship*. Englewood Cliffs: Prentice Hall.
- Casson, H. (1982). *The Entrepreneur. An economic theory*. Oxford: Robertson.
- Cohn, M.D, March, J.G., & Olsen, J.P. (1972). A garbage can model of organisational choice. *Administrative Science Quarterly*, 1, 3-18.
- Cole, A. H. (1959). *Business enterprise in its social setting*. Mass: Harvard Press.
- Collins, O.F., & Moore, D.G. (1970). *The organization makers*. New York: Appelton Century Crofts.
- Collins. O.F, Moore, D.G., & Unwalla, D. (1975). The enterprising man and the business executive. I: C.M. Baumbach & J.R. Mancuso (Ed.). *Entrepreneurship and venture management*. Englewood Cliffs: Prentice-Hall.
- Comte, A. (1970). *Ecrits de jeunesse*. Paris. Mouton.
- Cooley, C.H. (1972). *Social organisation - a study of the larger mind*. New York: Schocken Books.
- Cooper, A.C., & Dunkelberg, W.C. (1981). A new look at business entry. Experiences of 1805 entrepreneurs. I: K.H. Vesper (Ed.), *Frontiers of entrepreneurship research*. Wellesley MA: Babson College.
- Davis, P. (1990). *Det kreative kaos*. (The cosmic blueprint). Copenhagen: Gyldendal.
- Durkheim, E. (1973a). *Les règles de la méthode sociologique*. Paris: Presses Universitaire de France.
- Durkheim, E. (1973b). *De la division du travail sociale*. Paris: Press Universitaire de France.
- Feuerbach, L. (1975a). Das Wesen des Christentums. I: L. Feuerbach. *Werke (Vol.5)*. Frankfurt am Main: Suhrkamp Verlag. (Orig. pub. 1841)
- Feuerbach, L. (1975b). Vorläufige Thesen zur Reformation der Philosophie. I: L. Feuerbach. *Werke (Vol.3)*. Frankfurt am Main: Suhrkamp Verlag.(Orig. pub. 1843).
- Feuerbach, L. (1975c). Grundsätze der Philosophie der Zukunft. I: L. Feuerbach. *Werke (Vol.3)*. Frankfurt am Main: Suhrkamp Verlag.(Orig. pub. 1843).
- Freud, S. (1948). Das Unbehagen in der Kultur. I: S. Freud: *Gesammelt Werke (Vol 14)*. London: Imago Publishing.
- Gartner, W.B. (1985) A conceptual framework for describing the phenomenon of new venture creation. *Academy of Management Review*, 10(4), 696-706.
- Gartner, W.B. (1989). Who is an entrepreneur? is the wrong question. *American Journal of Small Business*, 47-68.
- Gleick, J. (1990). *Kaos. En ny videnskabs tilbliven*. (Chaos - Making a new Science). Copenhagen. Munksgaard.
- Hagen, E.E. (1962). *On the theory of social change. How economic growth begins*. Illinois: Homewood.
- Hamel, G. (1992, Mars 8.). Et mål er meget vigtigere end en plan. *Berlingske Tidende*.

- Harbison, F. (1976). Entrepreneurial organization as a factor in economic development. *Quarterly Journal of Economics*, 70, 364-379.
- Hegel, F. (1972). Vorlesungen über die Philosophie der Geschichte. I: F. Hegel. *Werke (Vol.12)*. Frankfurt am Main: Suhrkamp Verlag. (Orig. pub. 1828)
- Hérbert, R.F. & Link, A.N. (1988). *The entrepreneur - mainstreams, views and radical critiques*. New York: Praeger.
- Herlau, H. & Tetzschner, H. (1990). *Danske iværksættere - Model 2: Innovation, netværksopbygning og projektledelse*. Copenhagen: Handelshøjskolen i København.
- Hisrich, R.D. (1990). Entrepreneurship/intrapreneurship. *American Psychologist*, 45(2), 209-222.
- Hofstadter, D.R. (1992). *Gödel, Escher, Bach*. Denmark: Aschehoug.
- Holzkamp, K. (1983). *Grundlegung der Psychologie*. Frankfurt/M: Campus Verlag.
- Jantsch, E. (1980). *The self-organizing universe*. Oxford: Pergamon Press.
- Johannisson, B. & Nilsson, A. (1989). Community entrepreneurship - Networking for local development. *Journal of Entrepreneurship and Regional Development*, 1(1), 1-19.
- Johannisson, B. (1987). Anarchists and organizers - entrepreneurs in a network perspective. *International Studies of Management and Organization*, 17, 49-63.
- Kanbur, S. M. (1980). A note on risk taking, entrepreneurship, and Schumpeter. *History of Political Economy*, 12, 489-498.
- Kant, I. (1975). *Die drei Kritiken in ihrem Zusammenhang mit dem Gesamtwerk*. Stuttgart: Alfred Kröner.
- Kets de Vries, M (1977). The entrepreneurial personality. A person at the crossroads. *Journal of Management Studies*, 1, 34-57.
- Kilby, I. (1971). Hunting the 'Heffalump'. I. I. Kilby. *Entrepreneurship and economic development*. New York: Free Press.
- Kjeldsen, J. (1989). *Den internationale entreprenørforskning i et teoretisk og metode-mæssigt perspektiv*: Institut for Markedsøkonomi. Handelshøjskolen i Århus. (Working Paper no. 15).
- Lenin, V. I. (1971). *Materialismus und Empirio-kritizismus*. Berlin: Akademie Verlag.
- Leontjew, A. (1973). *Probleme der Entwicklung des Psychischen*. Berlin: Volk und Wissen.
- Lewin, K. (1935). The conflict between Aristotelian and Galileian modes of thought in contemporary psychology. I: K. Lewin. *A dynamic theory of personality*. New York: McGraw-Hill.
- Lewin, K. (1947). Frontiers in group dynamics. *Human Relations*, 1, 5-41.
- Lewin, K. (1969). *Grundzüge der Topologischen Psychologie*. Stuttgart: Hans Huber.
- Low, M.B. & MacMillan, I.C. (1988). Entrepreneurship. Past research and future challenges. *Journal of Management*, 14(2), 139-161.
- Marx, K. (1974,a). Das Kapital. I: K. Marx & F. Engels. *Werke (Vols. 23,24&25)*. Berlin. Dietz Verlag. (Orig.pub. 1890).
- Marx, K. (1974,a). Ökonomisch-philosophische Manuscripte aus dem Jahre 1844. I: K. Marx & F. Engels. *Werke (Vol. Erg.1.)*. Berlin. Dietz Verlag. (Orig.pub.1844).
- Marx, K. (1974,b). Zur Kritik der Hegelschen Rechtsphilosophie. Kritik der Hegelschen Staatsrechts & Einleitung. I: K. Marx & F. Engels. *Werke (Vol. 1)*. Berlin. Dietz Verlag. (Orig. pub. 1843)
- McClelland, D. C. (1961). *The achieving society*. London. Collier-Macmillan.
- Mead, G.H. (1972). *The philosophy of the act*. Chicago: The University of Chicago Press.
- Mead, G.H. (1974). *Mind, self, and society - from the standpoint of a social behaviorist*. Chicago: The University of Chicago Press.
- Mintzberg, H. (1973). Strategy-making in three modes. *California Management Review*, 16(1), 934-948.
- Murray, H.A. (1938). *Explorations in personality*. New York: Oxford University Press.
- Naisbitt, J. (1982). *Megatrends*. New York: Warner Books.

- Parsons, T. (1970). *Social structure and personality*. London: The Free Press.
- Pribram, K.H. (1986). The cognitive revolution and mind/brain issues. *American Psychologist*, 41(5), 507-520.
- Prigogine, I. & Stengers, I. (1985). *Den nye pagt mellem mennesket og universet*. Århus: ASK.
- Purcell, E. (1968). Parts and wholes in physics. I. W. Buckley (Ed.), *Modern systems research for the behavioral scientist*. Chicago: Aldine Publishing Company.
- Roberts, E.B. (1968). Entrepreneurship and technology - A basic study of innovators. How to keep and capitalise on their talents. *Research management*, 11(4), 249-266.
- Russell, B. (1919). *Introduction to mathematical philosophy*. London: George Allen & Unwin, Ltd.
- Schumpeter, J.A. (1931). *Theorie der wirtschaftlichen Entwicklung*. Munich: Duncker & Humblot.
- Schumpeter, J.A. (1987). *Capitalism, socialism and democracy*. London: Unwin Paperback.
- Sève, L. (1975). *Marxisme et théorie de la personnalité*. Paris: Éditions Sociales.
- Shapero, A., & Sokol, L. (1982). The Social Dimension of Entrepreneurship. I: A. Kent, D.L. Sexton & K.H. Vesper (Ed.). *Encyclopedia of Entrepreneurship*. Englewood Cliffs: Prentice Hall.
- Tarski, A. (1944). The semantic concept of truth. I: H. Feigl & W. Sellars (Eds.), *Readings in philosophical analysis*. New York: Appelton Century Crofts.
- Thom, R. (1975). *Structural stability and morphogenesis*. Massachusetts: Benjamin.
- Toffler, A. (1982). *The third wave*. New York: Bantam Books.
- van de Ven, A.H., Hudson, R., & Schroeder, D.M. (1984). Designing new business startups. Entrepreneurial, organizational, and ecological considerations. *Journal of Management*, 10(1), 87-107.
- Weber, M. (1930). *The protestant ethic and the spirit of capitalism*. New York: Schribner.
- Weber, M. (1972). *Wirtschaft und Gesellschaft*. Tübingen: J.C.B. Mohr.
- Winslow, E.K., & Solomon, G.T. (1987). Entrepreneurs are more than non-conformists. They are mildly sociopathic. *Journal of Creative Behavior*, 21(3), 202-213.
- Zeeman, E.C. (1977). *Catastrophe Theory. Selected Papers 1972-1977*. London: Addison-Wesley.