Perceived Control and the Transformation of Modernity*

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My interest in this symposium is an interest in the models of man in contemporary psychology. This may seem a trivial statement for a psychologist, but it is also an unconventional one. Trivial, because, in the opinion of the public, psychology deals with man; unconventional, because contemporary mainstream psychology rarely ever asks questions about man in general. Man seems not to be an object of psychology as we know it. Contemporary psychology is proud of being an empirical science, which does research and steers clear of questions about human nature. Some years after it had celebrated its one hundred anniversary it seems clear that psychology has finally exchanged the stuffy air of the philosopher's room for the fresh atmosphere of the scientist's laboratory. From a "reasoning" psychology grew a "working" psychology, as one of the representatives of our discipline recently has called it (cf. Herrmann, 1991). As a modern science psychology is following the way of *vita activa* and avoiding the way of *vita contemplativa*.

This commitment to modernity is very important, and I think psychology should not give up its modernist self-image. Only, the modernity of contemporary psychology does not go far enough. Its modernist self-image is biased. I'm going to take this bias as background for my discussion of the papers we have just heard. The modernist self-image of psychology, which is shown in its commitment to a "working" psychology, derives from its use of the methods of science, not form its understanding of its object. Psychology's understanding of its object is far less modern than its methodological awareness. And this is also true of the psychology of control belief. In what follows, I would like to comment on this thesis.

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Control is essentially an attribute of modern man. Think of the emergence of science in the 17th century. Science became established under the demand for control over nature. As Carolyn Merchant writes in her book "The Death of Na-

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ture" the British philosopher, Francis Bacon, transformed the magical relation to nature into a relation of mastery and manipulation. "Bacon transformed the natural magician as 'servant of nature' into a manipulator of nature and changed art from the aping of nature into technique for forcing nature into new forms and controlling reproduction for the sake of production" (Merchant, 1980, p. 182f.). Similarly, the French philosopher, René Descartes, promised in his book "Discourse on Method" to enable men become the "masters and possessors of nature", if only they followed his methodological advice (cf. Descartes, 1960, p. 100). The philosopher-scientists of the 17th century depicted a nature that is accessible to the control of man in the service of man. The *vita activa* of modern man found its shape in the experimental method. The experiment is a sign of the active potential of the scientist, proof of his control belief.

Psychology has followed the creed of experimental science in an almost exemplary manner. Its self-image as a scientific discipline is very much built upon the methodological control belief of the experimental scientist. This scientistic understanding of psychology is embodied paradigmatically in behaviorism. Control is an attribute of the psychologist, not an attribute of his object. The object, on the contrary, is maximally under the control of the environment. In this way, behaviorism reproduces, almost perfectly, the Cartesian division between the subject and the object of knowledge in the field of psychology. Subjectivity, this outstanding characteristic of modern man, is placed solely on the side of the sientist, it is not to be found on the side of the scientist's object. This duality may be convincing in the case of inanimate nature, but it doesn't make sense in the case of human beings.

The Cartesian world view has been critized from the beginning. And as far as behaviorism is concerned, there was never a time when it found full acceptance. Maybe it is thanks to European psychology that the behaviorist revolution never achieved its end. At least some European psychologists have continued to remind the scientific community of the subjectivity of its object. In this way they have stood up for an undivided modernity of psychology.

The opposition to the dualistic view of psychology has become stronger recently. Our symposium is just one of the many symptoms demonstrating a new wave of modernization in our discipline. It is a wave of modernization that goes beyond the methodological side of psychology and concerns itself with its object. Control no longer seems to be an attribute of the psychologist doing research only, but an attribute of the human being as object of psychological research as well. Certainly, it is true that the psychologists working in the field of our symposium prefer not to speak of control, but of control *belief*, suggesting furthermore a dichotomy between real control by the scientist and mere illusions of control by the lay person. But, this remnant of Cartesianism might soon be over-

come in favor of a true symmetry between subject and object of psychological control research.

Looked at in this way, it seems as if psychology is on its way to becoming truly modern. But it is not that simple. In reducing the deficits of its modernity, psychology seems to overlook the acceleration of modernization that is taking place nowadays. There is not the place to tackle this radicalisation of modernity, but I think that the psychology of control belief could profit by taking note of the emergence of a new understanding of our modernity. Therefore, I will take a brief look at the most recent change in the modernization of our living conditions.

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Control was the answer of modern man to the loss of security in the divine cosmos. Since the 17th century science has been dominated by the attempt to cope with the feelings triggered off in the mind of modern man by a world with apparently no spiritual sense. The aim of science was to keep nature at a distance. What we can keep "at arm's length" cannot bother us in the same way as what we are involved in (cf. Elias, 1983). In this regard science is not different from myth or religion. But, where myth and religion allow a personal relation to the frightening world and therefore make control a matter of dialogue, the control that science allows is anonymous and instrumental. In psychology it is again behaviorism which expresses the scientific concept of control most pithily. Instrumental or operant conditioning means control by effectance, i.e., by exercising power. "Operant behavior is essentially the exercise of power ...", as Skinner told us (Skinner, 1974, p. 154). The scientistic paradigm of operant conditioning exemplifies the pure way of *vita activa*, while myth and religion always favored the way of *vita contemplativa* as well.

Until the beginning of the twentieth century, classical physics had been the dominant model for the other sciences, included the human sciences. The control need of modern man found its articulation in the aim of science to subjugate a disenchanted world. As I have mentioned before, in the psychology of control belief this aspect of the self-image of man as scientist became part of the self-image of the lay person. Meanwhile, however, physics went through a paradigm shift. The ideal of the epistemological separation of subject and object of research cannot be realized in quantum physics. The physicist is part of waht he is investigating and trying to control. The Cartesian model of the scientist as an individual who has a detached overview of his field of investigation has lost its plausibility. "... the scientist as spectator is dead" (Toulmin, 1982, p. 252). His

place has been taken over by systems, whose behavior is not predictable in the strict sense of the word, because they are open. Open systems are also not determined in their development. There is only a determination of the probabilities of a plurality of possible developments. The concept of open systems obviously contradicts the experimental approach to reality with its unlimited belief in control. Thus, it cuts down the control pretension of science. The modernity of modern man has found a new interpretation. To be modern no longer means having unrestricted control over nature, but accepting a sphere of reality that definitively is not at one's disposal.

Literature and the arts very early noticed the change in the meaning of modernity. What we generally call modernism in the arts, has been very much influenced by the transformation of the image of man that took place in the physics of the early twentieth century. The modernity of the twentieth century reduces the claims to subjectivity of the seventeenth century a great deal. The godlike sovereign subject of Cartesian science passed through a metamorphosis and became a mundane being who is part of and dependent on heteronomous relations to other subjects. In developmental psychology it is mostly feminist authors who put special emphasis on this dialectical understanding of human nature (cf. Benjamin, 1988; Gilligan, 1982; Josselson, 1988).

What we are experiencing today under the name of "postmodernism" is nothing other than the dissemination of the scientific and cultural modernity of the beginning of the twentieth century into the spheres of daily life. A number of sociologists have confirmed this kind of analysis. For them the distinctive feature of our days lies in the concept of risk (cf. Beck, 1986; Giddens, 1990; Luhmann, 1992). Risk is a counterpart to certainty. The radicalisation of modernity, which we are witnessing today, is leading to a point where we will have to accept that certainty is no longer attainable. The Cartesian project of building knowledge on a absolutely certain ground in order to gain control over nature has come to its end. "Modernity is constituted in and through reflexively applied knowledge, but the equation of knowledge with certitude has turned out to be misconceived. We are abroad in a world which is thoroughly constituted through reflexively applied knowledge, but where at the same time we can never be sure that any given element of that knowledge will not be revised" (Giddens, 1990, p. 39). What started at the beginning of the century in physics and the arts is becoming now a characteristic of everyday life. Social systems as well as natural systems have lost their controllability in the strict sense of the word. "No matter how well a system is designed and no matter how efficient its operators, the consequences of its introduction und functioning, in the contexts of the operation of other systems and of human activity in general, cannot be wholly predicted. One reason for this is the complexity of systems and actions that make up world so-

ciety" (ibid., p. 153). With that in mind, control has become, not only in the perspective of physics but in the perspective of sociology as well, a matter of relative size. Risks cannot be controlled; with risks you can only live. They require other kinds of coping strategies than control beliefs.

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I do not want to say that the psychology of control belief has not taken notice of the most recent transformation of our modernity at all. Yet, its reaction is predominantly intuitive and without any reference to the above mentioned sociological and cultural analysis. And - typically enough, I would like to say - its reaction is limited to methodology and does not encompass the emergent new image of man. The radicalisation of modernity seems to have consequences only for one side of the epistemological relation. The subject of psychological research seems to change from Cartesianism to Post-Cartesianism but not the object of psychological research. Kunnen's paper is typical of this situation. General systems theory is used as a supposedly better research tool. The understanding of man as a controller of his environment is not touched. The roots of General systems theory go back to Descartes. Ludwig von Bertalanffy, the founder of General systems theory, described it as a way to a new *mathesis universalis* (cf. von Bertalanffy, 1954). From the perspective of second-order cybernetics Kunnen's model of the development of perceived control is restricted to what Heinz von Foerster called a trivial machine. Trivial machines are strictly predictable in their behavior, whereas non-trivial machines - and I would say man is such a non-trivial machine - are not predictable and therefore not controllable. That is why even on the side of the subject of psychological research the attempt at control is not modified with Kunnen's use of General systems theory.

Something similar can be shown using the example of the concept of secondary control (cf. Rothbaum, Weisz & Snyder, 1982). Secondary control is control after the loss of primary control. It seems that we experience the situation of our intensified modernity exactly in this way: The loss of (primary) control in an increasingly interdependent world and the growth of risks in our everyday life is forcing us to fall back on secondary resources of adaptation, which are of a rather premodern and irrational appearance. But, secondary control is - properly conceived - not irrational. Sociological analysis has shown us that "secondary" control is, in a modern society like ours, just as primary as "primary" control. There is no thing to be gained by ranking one above the other.

I feel much better with Brandtstädter's dichotomy between assimilative and accommodative coping. In my opinion the research on control beliefs would profit

if it were integrated into the broader tradition of coping research. Brandtstädter seems to exclude the concept of accommodative coping from the sphere of control beliefs. Accommodative processes are not modes of personal control, as he says (cf. Brandtstädter, Wentura & Greve, 1993, p. 344). The concept of accommodation stems from Piaget's theory of cognitive development, even though it is not clear how far Brandtstädter wants to go in referring to that theory. As a developmental-psychological construct, accommodation is a process of much more importance than assimilation. Only accommodative processes lead to a structural change of the individual, i.e., to development. "Accommodation is that aspect which modifies form as a function of the external situation" (Piaget, 1981, p. 4). "If assimilation alone were involved in development, there would be no variations in the child's structures. Therefore he would not acquire new content and would not develop further. ... When assimilation *outweighs* accommodation (i.e., when the characteristics of the object are not taken into account except insofar as they are consistent with the subject's momentary interests) thought evolves in an egocentric or even autistic direction" (Piaget, 1970, p. 707, 708). If the concept of control has any developmental-psychological meaning at all then *loss* of control is of much greater importance than mere control. Only loss of control, or loss of "primary control", can force the individual to change its structure.

As I understand Brandtstädter he does not use the concepts of assimilation and accommodation in this strict Piagetian sense. At least assimilation is not conceived of as a cognitive but as an action-related concept. Assimilation is not something that one does *cognitively*, but something that one does *behaviorally* (cf. Brandtstädter, Wentura & Greve, 1993, p. 332f.). This is the reason why even from Brandtstädter's point of view loss of control is seen rather negatively. The accommodative mode of coping consists of the downgrading of aspirations, adopting less demanding performance standards, and disengaging from barren developmental options (cf. ibid., p. 333). I fully agree with the notion that assimilative and accommodative processes are not mutually exclusive, but rather complementary adaptive modes. Particularly in the case of developmental psychology accommodation cannot mean resignation, regression or depression. Accommodation can lead to new relations to the environment or to the self and in that sense is a step to new forms of control.

There is a kind of paradox in the developmental analysis of control beliefs. Development is arrested when assimilation dominates accommodation. But accommodation presupposes a feeling of disequilibrium in the relation of an individual to his world. Therefore development of control belief is possible only after the breakdown of control belief. That is why I am asking for the limits of the concept of control. This question is especially important in the light of the re-

sults of Brandtstädter's study. One of the main results of Brandtstädter's study is that control beliefs do not shrink during middle and old age, not even when there is an objective loss in control. There is a sort of compensation for loss of control by - we do not know what, because the psychology of control beliefs has not investigated that aspect. But other values than control become more important during the process of aging. These might be values like contemplation, calmness or "doing everything by doing nothing", as the Taoists say. The elderly of our days may be the really modern people. As I said in the paragraph on the radicalisation of modernity, accepting risks as something that is beyond the control of individual man is afforded by our changed life conditions. Recently I have heard an interview with an old woman who was being asked about the technical problems Swissair has with its latest aircraft. The woman said that she was not worried about it at all, that she had lived a long life and that there was nothing that could bother her. She had no problems flying in an airplane whose technical problems caused concern amongst some of the younger people interviewed. Control of her situation seemed of no consequence at all to this old woman. This anecdote provides a background to my questions: How far does the concept of control reach? Where are its limits? What will we find beyond the field of control beliefs? Could it be that with the increase of experience that goes along with the process of aging the attempt at control just diminishes? Might there even be a paradigm shift in old age, comparable to the "Copernican revolution" in childhood, but this time a shift toward a "Post-Copernican" world view? I do not know the answers to these questions, but I think it could be beneficial for the psychology of control beliefs to think about them.

The paradox of the developmental-psychological analysis of control beliefs is also significant for Kulas' investigation of the antecedents of students' locus of control. As an educational psychologist I was not surprised by learning that accepting, friendly, fair and encouraging teacher behavior was supportive of internal locus of control. But what is it exactly that is good for the development of internal control belief? I do not think that acceptance of the student as an individual person is enough. There must be more than mere acceptance, namely a moment of irritation of the student's behavior. Effective teaching is a process by which the assimilative mode of the student is disturbed. Teachers must be demanding, inducing cognitive conflict and thereby destroying control beliefs, at least illusionary ones. Kulas does not comment on the sex differences in his data. Could it be that boys do not like being cognitively disturbed as much as girls? And could it be that this is the reason why girls profit more from school than boys, not only in the sphere of control beliefs, as Kulas has shown, but also elsewhere as other studies show?

There is another problem. How much does it make sense to ask for the *amount* of control a certain individual has? Does it even *make* sense investigating control beliefs in a quantitative manner as Flammer has tried in his paper? Flammer has told us that to believe in one's own control means "to *consciously know that one is able to act in such a way that a certain effect is produced*" (Flammer, 1993, p. 3). This seems to go too far as a definition of control belief, because one never can *know* that one is able to produce a certain event unless one really has produced it. But Flammer probably does not mean what he says. What he outlined in his paper was a developmental theory of control *belief*, not control *knowledge*. Anyway, following Flammer, it seems possible to quantify control knowledge or control belief. I do not feel happy about that part of Flammer's paper. Are we really able to answer questions like "How much control is best?" or "Where, concerning the amount of control, is the border line between sane and insane behavior?" I am very skeptical about the studies that tell us that control illusions are adaptive. Not because I doubt the soundness of the empirical results, but because there is no discussion of the import of these results in those studies. What does it mean when psychologists find out that illusionary beliefs in one's control are functionally related to mental health, happiness, creative work etc.? Everybody knows that at some time illusions become detrimental. And psychologists know that depression is such an eventuality, because one of the symptoms of depressive patients is that they are unable to refrain from their (illusionary) control beliefs, i.e., depressed individuals are less prone to appraise situations as requiring acceptance or are not able to reduce the personal importance of blocked goals. Being able to leave things as they are can be a sign of normality.

When we take another look at the life conditions of a radicalized modern society it is obvious that the dangers we face today do not stem from a pristine state of nature but from one that has been exposed to the intervention of human civilization. The risks involved in modern life are the result of modern man's activity in this natural world; the pollution of the air, the nuclear threat, the greenhouse effect, population growth, the reduction of rain forest etc., all are made by ourselves. And everybody knows about the causes of these risks, i.e., everybody knows that there is neither a god nor a devil that can be made responsible for our situation but only man himself. In such a situation it makes no sense to try coping with life in an illusionary way. There is no use for magical practices or irrational beliefs. Magic was adaptive in a society that did not reconstruct nature. But in a technological society illusionary control beliefs are just what they are: mere illusions.

I also would like to ask the question how far, in an enlightened society like ours, psychology can succeed with this alleged knowledge about the beneficial effects

of illusionary control. Once you have destroyed an illusion it no longer works. When people hear about the health-supporting character of their control illusions, they will soon lose them. The effect of a medicine is destroyed when you find out that it actually is a placebo. Is it any longer possible to imagine religious individuals in a culture that informs its members that religion is an illusion? Thus my question: What does psychology really know when it knows that illusionary control beliefs are beneficial? I do not think that it will ever be able do apply this kind of knowledge in a morally proper way.

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It is not the intention of my discussion to discredit the research presented by the different papers we have heard. My intention is to make the psychology of control belief a bit more ambitious on its theoretical side. You certainly know the criticism of the field: a terminology, which is too heterogeneous, a methodology, which is not uniform at all, research traditions, which are very divergent, theoretical equipment, which is at best ready-to-wear, but never *haute couture* etc. In my opinion these points of criticism can be traced back to the problem of a predominantly methodological approach to the subject matter. The image of man is shaped by methodological criteria and not by a thorough analysis of the field which is truly independent of the methods of experimental science. As I see it, the psychology of control belief would achieve a better understanding of its subject matter if it were to participate in the wave of modernization that is taking place in our time. To understand a field of research affords knowledge of its boundaries. These boundaries can only be seen from a perspective outside the field. In the case of the psychology of control belief such a perspective from the outside can be found in the theory of modernity. The theory of modernity of which I - as a "reasoning" psychologist - have made use in my discussion, could bring more structure to the field of psychological control research and even have a unifying effect upon the "working" psychologists in this highly interesting branch of contemporary psychology.

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