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Lempert, Wolfgang

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Moral Development in the Biographies of Skilled Industrial Workers

WOLFGANG LEMPERT

Max Planck Institute for Human Development and Education, Berlin, Germany

ABSTRACT *This article is based on a longitudinal study of relations between biographical conditions and the personality development of 21 young workers ranging from 23 to 30 years of age who had passed through an apprenticeship in large plants of the metal industry in West Berlin. The biographical analyses focused mainly on occupational conditions; the personality analyses, on such socio-cognitive variables as patterns of control awareness and structures of moral judgement. A review of the relevant literature led to the hypothesis that seven social conditions in particular promote development. Data on these conditions were collected continually through in-depth interviews of the workers, observations of their work and information from their superiors, personnel managers and works councils. Data on moral judgement were collected at the beginning and end of the study by confronting the workers with five real-life dilemmas in a semi-structured interview. Before the second series of "moral interviews", predictions of the individual moral levels of all subjects were derived from their former reasoning and their intermediate biographical experiences. The responses of the interviewees confirmed nearly all the predictions. Occupational experiences appeared to have contributed considerably to moral development in most respondents.*

Moral development takes place throughout the life of the individual. Structural transformations of moral reasoning as defined by Kohlberg have been observed in longitudinal studies of children, adolescents and adults alike (Snarey, 1985). Such transformations have been explained in terms of interactions of the subjects with their social environment (e.g. Kohlberg, 1976, pp. 49–52; Rest, 1983, pp. 596–600). In some studies individual moral progressions have been attributed to working conditions (Kohlberg & Higgins, 1984; Higgins & Gordon, 1985). Most cases of development toward post-conventional thinking and reasoning among Americans in the United States have been traced to college education (e.g. Rest, 1975, 1988) and professional experiences of social responsibility in complex situations (Kohlberg & Higgins, 1984). Below this level of education and occupation, post-conventional orientations have been found frequently only among young members of kibbutzim (Snarey, Reimer & Kohlberg, 1985). In all other populations studied, early transition from school to work and the choice, training and employment in a predomi-

nantly technical or commercial occupation have mostly corresponded with lower levels of moral judgement (see particularly Döbert & Nunner-Winkler, 1975; Portele, 1985).

One may ask, therefore, whether industrial workers (even in the skilled trades) who have neither had higher education nor chosen and learned a social-service occupation during their early years of employment (a) advance in their moral reasoning, especially beyond the conventional level, and (b) if so, whether such advance is stimulated at least partly by working conditions or only by extra-occupational circumstances and events.

To answer these questions I first specify a set of social conditions that, according to the relevant literature, can be expected to promote moral development. I then outline the methodological approach of a longitudinal study conducted at the Max Planck Institute for Human Development and Education, Berlin (Hoff, Lempert & Lappe, 1991). Our research concerns relations between biographical conditions, occupational careers in particular, and personality development, especially structural changes in conceptions of control (see Hoff & Hohner, 1986) and moral orientations. The third part of this paper begins with a survey of relevant results, continues with special considerations of occupational influences on the moral development of the workers studied, and ends with two case descriptions. The results are subsequently discussed and summarised, and scientific and practical perspectives are outlined.

Sociobiographical Conditions of Moral Development

The consideration of socio-biographical conditions that facilitate the differentiation of structures of moral judgement and their reorganisation at higher, more complex levels has thus far been rather fragmentary. Furthermore, their conceptualisation has often been only theoretical and highly abstract. According to Durkheim (1961; see also Müller, 1986), three successive processes of moral socialisation can be discerned in modern societies; internalisation of discipline, identification with an increasing range of social groups and formation of moral autonomy in the face of conflicting social norms and heterogeneous cultural values. The first process and much of the second can be interpreted as the development of conventional orientations, whereas the third process indicates progression towards post-conventional reasoning. Piaget (1965) pointed particularly to three social conditions affecting the ontogenesis of morality; (a) the respectability and trustworthiness of the parents and other authorities, leading to moral heteronomy (which Kohlberg classed with both of his lower levels); (b) differentiation of the social environment of the subject as a precondition for the transition to moral autonomy (which cannot be attached to only one of Kohlberg's levels either, but which certainly covers post-conventionality); and (c) egalitarian co-operation, that is, the transition itself.

Kohlberg himself (e.g. 1976) has repeatedly stressed three rather generally formulated environmental factors accounting for transitions at all levels: (a) opportunities for social perspective-taking, (b) the "moral atmosphere" of the group and/or institution, and (c) arousal of cognitive moral conflicts. Kohlberg and

Higgins (1984) accentuated two specific conditions facilitating moral progress from conventional to post-conventional thinking. The first was exposure to fundamental moral conflicts during a period of "moratorium" (as an opportunity to reflect thoroughly on these conflicts). The second condition was growing social responsibility in complex situations. Both conditions, according to the authors, are frequently encountered at American colleges and in some professions. A functional equivalent found by the authors was a basically egalitarian communication and cooperation, as in Israeli kibbutzim.

Hoffmann (1977) and Hoffman and Saltzstein (1967) discovered that the "disciplinary technique" of asserting power tends to inhibit rather than foster moral development whereas empathy and "inductions" (information on consequences that one's behaviour has for others) lead at least to conventional orientations. Garbarino and Bronfenbrenner (1976) stressed the importance of empathy and love as well, which they see as essential to the adoption of any moral perspective. Like Durkheim, Piaget and Kohlberg, they have also demonstrated that social and cultural pluralism embedded in a context of commonly accepted rational rules, ideas and principles becomes fertile soil for principled reasoning, whereas monolithic structures prevent individuals from developing beyond conventional orientations, and that anomic societies may even induce moral regression.

A comprehensive explanation of moral development requires these partly divergent concepts, assumptions and findings to be cast in a more consistent manner and arranged according to the observed or expected influences exerted on different moral transitions. In this vein it seems reasonable to discriminate between seven social conditions of individual moral development and classify them into three categories.

The *development of moral* (i.e. consensus-orientated) *reasoning*, as opposed to strategic, success-orientated thinking and reasoning (Habermas, 1990, pp. 133-134) probably will be promoted in general by the following.

1. Involvement in manifest (instead of repressed or transferred) social problems and conflicts of interests, rules, norms, and values. An example would be participation in disputes between workers and management about job security. Such involvement often leads to internal cognitive conflict and stimulates the search for fair resolutions that may be found only at an advanced level of moral judgement.
2. Free (instead of standardised, one-way or manipulative) communication, particularly on the application and legitimacy of norms, values and principles (and not only of individual needs and social interests), for instance at periodic meetings of works councils. Such communication encourages the perception, description and assessment of contradictory orientations.
3. Participation in co-operative decision-making and concomitant involvement in helping to deal with common concerns such as transformations of organisational and institutional structures (instead of subordination, rivalry or mere talk). This co-operation, for instance, as a member of a relatively autonomous work group, fosters identification with the rules and results of

such interaction which thereby become obligatory standards of and strong motives for individual behaviour and action.

The *progression from pre-conventional* (i.e. egocentric) *to conventional, socio-centric orientations* will presumably be begun in childhood and rendered possible in adolescence particularly by the following.

4. Abiding empathy, love, care and recognition (instead of indifference, hatred, rejection, depreciation or contempt) from parents, peers and other "significant others", namely, esteem felt more for one as a person than for one's particular membership(s), competence(s), performance, power or wealth. An example would be individual furtherance of apprentices by their trainers or of subordinates by superiors. These elements appear to be a prerequisite of all higher forms of moral reflection and reasoning. They function by promoting confidence in oneself and others; creating and nourishing a sense of safety, affiliation and community; and motivating empathy, understanding and respect for other persons.
5. Information about the social impact of individual and collective behaviour and action (instead of unfounded rules prescribing or proscribing certain actions). This information would include references to industrial accidents that could be caused by one's inattention. It eventually helps one anticipate the consequences that one's omissions and commissions can have for other people.

As conceptualised here, the *later transition from the conventional to the post-conventional level* is defined not only by the attainment of a balance between social obligations and individual rights (a balance that may be achieved by observing such universal principles as liberty, equality and justice) but also by becoming able to consider carefully the peculiarities of individuals and situations and to evaluate thoroughly the consequences that different possible decisions could have. This transition can be supposed to depend on two further conditions, as follows.

6. Substantial involvement in contradictions between individual expectations, interpersonal rules, social norms and cultural values that preclude one-sided solutions and thereby permit or even require individual autonomy, based on a background of convergent liberal, egalitarian and humanitarian principles (instead of either forced harmony or lack of common maxims). Such involvement would occur if, for instance, a department manager were confronted with conflicting expectations of superiors, colleagues, subordinates and customers. This experience causes a directional crisis that may be coped with by comprehension, recognition and application of such universal principles.
7. Ascription of responsibility for one's own life and (subsequently) for others according to one's growing capabilities. This means granting adequate confidence and accountability (instead of either distrustful strict control or uncontrolled *laissez faire*). It also means clearly and realistically defining this responsibility (instead of incorrectly attributing consequences or failing to

attribute them at all). An example would be stepwise assignment of increasingly complex occupational functions and careful introduction to every new work task. This approach urges the subject to reconcile his/her demands with social requirements and to adopt and abide by firm convictions in place of non-committal views that may otherwise result from directional crisis.

At best, each of these factors appears to operate as a necessary, but not sufficient, condition of the development predicted. This development can be expected only if all, or at least most, of them have been prevalent for some years. (These factors, too, can thus be labelled "biographical" conditions.) One of them, abiding empathy, love, care and recognition from "significant others", is presumably not only an irreplaceable direct promoter of individual morality but also a factor influencing moral development indirectly by shaping the subjective perception, interpretation, evaluation of and reaction to all other conditions. Individuals who have not experienced such care and esteem may tend to view all persons as potential enemies and interpret every interpersonal interaction in a Social Darwinist way as a hostile encounter in which one can only win or lose. Such individuals must therefore develop and apply purely strategic competences for the most part. Furthermore, such people may exploit their knowledge about the social consequences of individual behaviour and action to serve their own interests rather than preserve the well-being of others. They may also be inclined to regard, acquire and misuse social responsibility primarily to control others and exercise power.

Research Methods

The assumptions stated so far were tested within the context of a longitudinal study conducted at the Max-Planck Institute for Human Development and Education, Berlin (Hoff, Lempert & Lappe, 1991). The methodological approach of this study will be sketched briefly in the following sections.

The sample consisted of 21 machine fitters, lathe operators, milling cutters and toolmakers who had completed their apprenticeships in three large factories of the machine building industry, the automotive industry and the electrical industry in West Berlin in 1977 and who were still employed by the same firms in 1980-81. These young skilled workers, who at that time were about 23 years of age, constituted all the employees in their plants who met the sampling criteria (occupation and apprenticeship cohort). Beyond the likelihood of rather homogeneous social background, general education and occupational training, the main reason for selecting these particular subjects was the variety of continuous and discontinuous occupational careers that was expected within the group during subsequent years.

Analyses of representative statistical data proved the subjects to be typical members of their occupations and cohorts. Nevertheless, the results of the study cannot be taken as representative in any quantitative sense. Indeed, this was not even intended. Instead, the idea was to identify some widespread patterns of thinking and feeling, describe them in detail, find out how they develop and explain their transformations biographically. The sample served well for these purposes.

The moral reasoning of the subjects was identified in semi-structured interviews at the beginning and end of the longitudinal fieldwork, which was conducted from 1980–81 until 1987 (by which time the workers were about 30 years old). In order to elicit those forms of moral thinking that guided the real-life decisions of the subjects, my colleagues and I confronted our respondents with five social conflicts that, according to previous discussions with other skilled industrial workers, were likely to be especially relevant for our subjects (see Spang & Lempert, 1989, Appendix 1). The issues, which appeared to remain important to our subjects throughout our longitudinal study, were as follows.

1. Whether one should stick with one's colleagues when conflict arises or whether one should be guided instead by the expectations of one's superiors.
2. Whether works councils should honour their legal obligation to confidentiality even if this severely harms the colleagues who elected them.
3. What a skilled worker should do whose firm demands his help on products (nuclear power plants, "arms" such as napalm bombs) whose use he finds dangerous or inhumane.
4. Whether it is correct for political refugees from other countries to be accepted by the Federal Republic of Germany.
5. What decision an amateur soccer player should make who has promised his team to participate in training and games regularly for two years but whose fiancée might leave him because he does not have enough time for her.

After presenting each conflict, we asked the subject to invent and justify his own resolution. Our probe questions thereby stimulated the interviewees to elaborate their reasoning, mention legitimate exceptions to proposed resolutions of the conflict, consider implications and variants of the original dilemma, evaluate counter-arguments and show the subjective validity and claimed social prescriptiveness of their answer(s).

All interviews were tape-recorded and transcribed. Because we did not use Kohlberg's dilemmas, we could not rely on the related scoring manual (Colby *et al.*, 1987). The analytical procedure we developed in its place (Spang & Lempert, 1989) allowed us to relate all relevant responses directly to the definitions of the stages. It was therefore suitable not only for data collected through our moral interview but for all transcribed moral reasoning that pertained to complex social problems, conflicts or dilemmas about which subjects had freely expressed themselves.

The reliability of our scores ranged from 86% to 100%, with a maximum difference of one stage permitted. They varied according to the five dilemmas and the two rounds of interviews. A summary score was assigned to every form of reasoning. Though usually one stage clearly dominated, many acts of reasoning could be assigned to a second as well, some even to a third stage. With minimal, maximal and modal values being considered, the final rankings for all five positions taken by a subject were synthesised in such a way that their total also indicated the intra-individual dispersion of the dominant levels (see Table I).

In order to assemble as complete a picture as possible, we monitored and recorded the biographical circumstances and events that we expected to contribute

to the development of the personality variables investigated extensively throughout this study. Our primary sources of information were: (a) in-depth interviews covering past and present aspects of the subjects' occupational and private lives and future perspectives; (b) job observations of the same subjects; and (c) additional interviews with the responsible superiors, personnel managers and works councils. Among other things, the additional interviews touched on relevant technical, organisational, social and economic structures and trends. Each worker was contacted by phone every few months, and the respective measures were repeated after any major change in his occupational or private situation. Biographical interviews of all subjects were conducted again at the end of our follow-up (see Hoff, Lappe & Lempert, 1983).

As with the psychological interviews, the biographical interviews were tape-recorded and transcribed. The observations were systematically protocolled in detail. These transcripts and protocols included information on all socio-biographical conditions that we expected to facilitate (or impede) moral development in each biographical period (e.g. early childhood, school years, apprenticeship and gainful employment) and domain of life (e.g. work and leisure). These data on period and domain were first analysed separately from each other, then "condensed" step by step into a comprehensive picture showing the biographical sequences of and relations between all conditions under consideration (see Hoff, Lempert & Lappe, 1991).

In summary, the sequence of our research operations was as follows.

1. 1980–81: Collection of data on the current work lives and private lives of 21 subjects at that time, their biographies to date and their personality structures (including moral judgement).
2. 1980–81 to 1986: Continual follow-up of each subject's occupational and extra-occupational biography.
3. Simultaneously: Retrospective testing of case-specific hypotheses derived from general assumptions about relations between biography and personality (such as those about the socio-biographical conditions of moral development).
4. Subsequently: Case-specific predictions of the personality variables to be re-measured in 1987. We formulated the predictions by applying the aforementioned assumptions to the 1980–81 personality data and the biographical data collected from 1980–81 until 1986.
5. 1987: Checking of these individual predictions by repeating the initial measurement of the personality variables with 19 subjects.

The special features of our research—small sample, low-level standardisation of the data collection and predominantly interpretative data analysis—could raise the suspicion that our empirical findings are heavily biased by our theoretical assumptions. We therefore took a number of measures to ensure the objectivity, reliability and validity of our results, including the following.

1. Use of different sources for gathering data on identical facts (e.g. subjects

working in the same department were asked separately about their working conditions, and their answers were compared).

2. Strict division of labour by which researchers who analysed the biographical data were segregated from others who dealt with the personality variables.
3. Initial coding and scoring of nearly all variables by at least two, and usually three, researchers independently of each other, with at least one of them not knowing the subjects.

Longitudinal Findings on Moral Development and Socialisation During the Early Adulthood of the Subjects

Brief Survey

Among other things, Table I summarises inter-individual differences and corresponding processes pertaining to our first question—whether there is any moral development in young skilled workers, especially beyond the conventional level.

The moral-judgement structures of the 19 metal workers who participated throughout our longitudinal study were spread over all three levels in 1980–81. At that time, 12 respondents argued (as one might have expected of the entire sample) in predominantly or consistently conventional terms; three subjects, though already young adults, still preferred pre-conventional arguments; one other was just in transition from the first to the second level. Two subjects, however, revealed predominantly—one additional, even exclusively—post-conventional thinking, even though none of the three had any higher education or advanced occupational status and though our definition of that level was rather ambitious. At about 30 years of age in 1987, the four subjects who had previously shown strong pre-conventional tendencies had switched to completely, or at least primarily, conventional thinking,

TABLE I. Moral levels, 1980–81 and 1987

Moral level		Cases	
		1980–81	1987
I(II)	Predominantly pre-conventional, but already partly conventional	3	—
I/II	Pre-conventional and conventional roughly equal	1	—
II(I)	Predominantly conventional, but still partly pre-conventional	5	1
II	Thoroughly conventional	6	13
II(III)	Predominantly conventional, but already partly post-conventional	1	1
III(II)	Predominantly post-conventional	2	3
III	Thoroughly post-conventional	1	1
Totals		19	19

bringing the number of respondents at that level to 14. One of the workers who had been at the conventional level had meanwhile progressed to the post-conventional level. In 1987, all but two of our subjects were classed at either the same stage as in 1980–81 (six) or *higher* (13). Hence, young skilled workers *do* advance in their 20s not only in terms of their technical qualifications but often also in terms of moral growth.

However, one may question the subjective validity of morality for those workers. Are moral reasons really relevant for their thinking, feeling and acting? Though we did not explicitly check this point, there are many indications that moral reasoning was personally important to most of our subjects. Most of them argued very intensely in the moral interview. Many said afterwards that *this* interview had been particularly stimulating. We took a wide range of information into consideration, including the spontaneity of their genuine moral (i.e. socially prescriptive) reactions to our dilemmas and probe questions, the certainty of their arguments, their inclination to relate the proposed conflict solutions to their own behaviour, the autobiographical examples and analogies with which they illustrated their moral preferences and criticisms of themselves and others and data we had collected on what they did and did not do. From all these indicators, competence in moral judgement appeared to be a central component of identity, especially for the subjects who reasoned at an advanced level.

The progress of the morally advanced respondents and the stabilisation of the reasoning levels of other subjects were predicted on the basis of their moral level in 1980–81 and their subsequent occupational trajectories and private lives. To what degree were these predictions of moral socialisation confirmed? Table II shows the predictions themselves, their bases, the measured levels and their relation to the predicted levels for each of the 19 subjects who participated in the entire longitudinal study.

Our predictions were completely accurate in 13 cases. Ten subjects had progressed as anticipated; four interviewees had stagnated in their moral development as expected. In one case (122) our prediction of development was correct only in a general sense. His moral level did rise, but more than anticipated. In five cases, however, we were more or less mistaken. Among them were the two seemingly regressive subjects already mentioned (121, 163), who fell slightly short of the predicted level because of severe time pressure in one of the interviews (121) and the fatigue of both interviewer and respondent in the other (163).

Further, this group included one worker who had once been thoroughly conventional and from whom we had expected at least one mainly post-conventional statement in 1987 (124). Still arguing in a predominantly conventional manner when discussing each of the five conflicts of our moral interview, that respondent additionally applied post-conventional reasons to three of these dilemmas. In his case, our prediction of development was therefore at least approximately correct. In the two other cases (166, 162), however, our predictions were substantially wrong. Without appropriate working conditions and/or private circumstances, both subjects had advanced their moral levels and shifted from predominantly and partially pre-conventional thinking, respectively, to thoroughly conventional reasoning. The

TABLE II. Moral socialisation, 1980-81 to 1987

Case no.	166	122	107	108	162	106	126	101	123	104	167	164	165	103	124	121	161	102	163	
Moral level, 1980–81	I(II)	I(II)	I(II)	I/II	II(I)	II(I)	II(I)	II (I/II)	II (I/II)	II	II	II	II	II	II	II(III)	III(II)	III(II)	III	
Social conditions, 1980–81 to 1986	Social problems and conflicts	− 1	+ 2	+ 2	− 1	− 1	+ 2	+ 2	+ 1	+ 1	− 1 ^a	+ 1 ^a	+ 1 ^a	<u>+ 2^a</u>	− 1 ^a	+ 1 ^a	+ 1 ^a	+ 1 ^a	+ 2 ^a	+ 2 ^a
	Communications	+ 1	+ 2	+ 2	+ 1	+ 2	+ 2	+ 2	+ 1	+ 1	+ 2 ^a	+ 2 ^a	+ 2 ^a	<u>+ 2^a</u>	+ 2 ^a	+ 1 ^a	+ 2 ^a	+ 1 ^a	+ 2 ^a	+ 2 ^a
	Participation	+ 1	+ 2	+ 2	+ 1	+ 2	+ 2	+ 2	+ 1	+ 1	+ 2 ^a	<u>+ 2^a</u>	+ 2 ^a	<u>+ 2^a</u>	+ 2 ^a	+ 1 ^a	<u>+ 2^a</u>	+ 1 ^a	+ 2 ^a	+ 2 ^a
	Empathy, etc	+ 1	<u>+ 1</u>	<u>+ 2</u>	<u>+ 2</u>	+ 1	<u>+ 2</u>	<u>+ 2</u>	+ 1	+ 1	+ 2 ^a	+ 1 ^a	+ 2 ^a	+ 1 ^a	<u>+ 2^a</u>	+ 1 ^a	<u>+ 1^a</u>	+ 2 ^a	+ 1 ^a	<u>+ 2^a</u>
	Information	+ 1	+ 2	+ 2	+ 1	+ 2	+ 2	+ 2	+ 1	+ 2	+ 2 ^a	<u>+ 2^a</u>	+ 2 ^a	+ 2 ^a	+ 2 ^a	+ 1 ^a	+ 2 ^a	+ 1 ^a	+ 2 ^a	+ 2 ^a
	Contradictions	<u>+ 1^b</u>	− 2 ^b	− 2 ^b	− 2 ^b	− 2 ^b	− 2 ^b	− 2 ^b	− 2	− 2	− 2	− 2	− 1	− 1	<u>+ 2</u>	<u>+ 2</u>	+ 2	<u>+ 1</u>	<u>+ 2</u>	+ 2
	Responsibility	− 2 ^b	+ 2 ^b	+ 2 ^b	<u>+ 1^b</u>	<u>+ 2^b</u>	<u>+ 2^b</u>	<u>+ 2^b</u>	+ 1	+ 2	+ 2	+ 2	+ 2	+ 2	<u>+ 2</u>	<u>+ 1</u>	+ 2	<u>+ 1</u>	+ 2	+ 2
Moral level, 1987	Predicted	I(II)	II(I)	II	II(I)	II(I)	II	II	II	II	II	II − II(III)	II − II(III)	II(III) − III(II)	II(III) − III(II)	III(II)	III(II)	III	III	
	Measured	II	II	II	II(I)	II	II	II	II	II	II	II	II (II/III)	II III(II)	II	II	III (II/III)	III	III (II/III)	
	Prediction confirmed	−	(+)	+	+	−	+	+	+	+	+	+	+	+	−	−	+	+	−	

Moral level: I(II) = predominantly pre-conventional, but already partly conventional; I/II = pre-conventional and conventional roughly equal; II(I) = predominantly conventional, but still partly pre-conventional; II(I/II) = predominantly conventional, but still partly in transition; II = thoroughly conventional; II(III) = predominantly conventional, but already partly post-conventional; II/III = conventional and post-conventional roughly equal; III(II) = predominantly post-conventional, but still partly conventional; III = thoroughly post-conventional.

Social conditions: - 2 = totally or nearly lacking; - 1 = largely lacking; + 1 = present; + 2 = strongly present.

Underlined: condition improved in comparison with the preceding years.

Relevance for moral socialisation: ^a = no longer particularly relevant; ^b = not yet particularly relevant.

Confirmation of prediction: + = prediction fully confirmed; (+) = prediction generally confirmed: change in expected direction; - = prediction not confirmed: expected change did not take place or unexpected change took place.

biographies of these two respondents showed almost no manifest social conflicts, as if they were unnecessary for this transition. On the other hand, we found no respondent who had largely failed to receive empathy, love, care and recognition yet who had still developed at the conventional level. This condition therefore appears to be indispensable to moral development, as we assumed in advance.

The Impact of Work and Career

We have so far found moral development to occur in adulthood not only in the professions but also in skilled industrial occupations, where it also sometimes advances beyond the conventional level and can be explained largely by socio-biographical conditions. The question remains whether this development, particularly the transition from conventional to post-conventional reasoning, is promoted only by factors outside the work experience or by certain occupational experiences as well.

During the period under study, nearly all of our subjects had to deal not only with major changes in their private lives, such as marriages and births, but also increasingly demanding work tasks that often required both considerable social competence and advanced technical expertise. Nevertheless, no relation was found between the occupational status or career patterns of our subjects and their moral level or development, though these varied considerably—as expected when we selected our sample in 1987. Whereas most subjects were still employed as workers, others had become supervisors, technicians or instructors of apprentices, and even those subjects still employed as workers had gone through very different processes of downgrading and upgrading. It was possible to identify the influence of occupation only when we referred directly to the work-specific variants of the seven social conditions. In keeping with our theoretical assumptions and the reported results, they did contribute to moral growth. In the 11 cases of correctly predicted moral progression, the influence of occupation was proved (see Table III).

In summary, five of these progressions were influenced primarily by occupational conditions, but only one of them (165, a supervisor of an ethnically mixed department) approached the post-conventional level. Accordingly, the jobs available to former industrial apprentices during their first decade of employment appear to encourage conventional rather than post-conventional thinking. However, careful analysis shows that one cannot afford to disregard the influence of either sphere of life—occupational or private—no matter which may have been decisive. Occupational conditions, therefore, contributed perceptibly to the moral development of nearly all the cases investigated. In the subsequent section, two cases demonstrate a clear relation between occupational and extra-occupational influences.

Two cases

The significance of this “dual socialisation” is clear in the first example, even though occupational socialisation was in the foreground. Subject 107, a machine fitter who had been employed as an instructor of apprentices in his firm since his own training

TABLE III. Explained moral progressions, 1980–81 to 1987, by predominant developmental conditions

Predominant development conditions	Case No.	Progression	
		from level	to level
Occupational	101	II(I/II)	II
	106	II(I)	II
	107	I(II)	II
	123	II(I/II)	II
	165	II	II(II/III)
Extra-occupational	102	III(II)	III
	108	I/II	II(I)
	161	III(II)	III(II/III)
Both	103	II	III(II)
	122	I(II)	II
	126	II(I)	II

period (and who still was an instructor in 1987), in 1980–81 argued pre-conventionally in four of the five conflicts presented in our “moral interview”. His moral “immaturity” contrasted starkly with the relatively high and complex communicative demands with which he found himself confronted in his role as an instructor. In that capacity, he should act as an advocate of the management when dealing with trainees, but of adolescents’ interests when dealing with the demands of the management. Among other things, his position also made him a mediator between economic and pedagogical desires. He coped very poorly with these multiple demands for several years. Thereafter, however, the accumulation of occupational experience and, presumably, the growing age difference between him and his trainees enabled him to improve his social competence. He also graduated from a master craftman’s college in another city. In these ways, he gradually gained the respect of the teenagers and earned wider recognition from his colleagues and superiors.

By acting with increasing success in his occupation and by starting his own family, he also gained the esteem of his most “significant other”, his extremely authoritarian father. Until this subject had completed his apprenticeship, his father had not taken him seriously (which must have been the main obstacle to his previous moral development) and had even continued to patronise him greatly afterwards.

The reported course of the occupational and private life of the respondent also implied that he continued to face social problems and conflicts, to act as an interlocutor in communications and decision-making and to experience social consequences of his actions and omissions (see Table II). In 1987 all the socio-biographical conditions required for a transition at the conventional level thus appeared to have been fulfilled for some time, so we predicted that he should reason at that level consistently. He did, with no exceptions.

In summarising the process of moral socialisation he experienced throughout

our longitudinal study, one can speak of a pronounced (and increasing) interaction of occupational and extra-occupational conditions. Lack of preparation for the social aspects of the occupation had eventually overtaxed the subject in his job and had led to general moral stagnation at a predominantly pre-conventional level. The subsequently increasing mastery of the occupational tasks and the esteem gained thereby in both the occupational and private spheres of life favoured the subject's transition to the conventional level. Work thus played a decisive role, distinct from all other factors of influence, in the period studied. The occupational success of this subject affected his extra-occupational situation in a way that then reinforced the effect of occupational socialisation.

The second example (Subject 103) is a case where occupational and extra-occupational influences were more evenly distributed and largely parallel in the way they operated. This person was also a trained machine fitter and, after his apprenticeship, initially worked in a repair crew within the same very large firm in which he had been trained. In responding to the conflicts presented in our "moral interview" in 1980-81, he adopted positions that were already thoroughly conventional and showed incipient post-conventional tendencies.

As in the previous example, previous socio-biographical conditions accounted well for the initial moral level of the respondent. Here I will again focus on the respondent's subsequent experiences. According to our hypotheses, a further progression (the transition to the post-conventional level) would have required (a) a radical reflection upon and creative integration of contradictory norms, values and so forth on the basis of universal principles resulting from a confrontation with such discrepancies, and (b) the pressure of bearable and adequately defined responsibility for himself and for others.

Up to 1980-81 only the second criterion had been sufficiently fulfilled, for at that time the subject repaired hazardous machines, consulted less experienced colleagues and assisted his foreman for several years. After completing his apprenticeship, he had also moved from his parental home into his own apartment and later entered into a partnership with a married woman who had left her husband for that reason. The subject also suffered severely from an externally stimulated directional crisis, torn as he was between the expectations of his colleagues to stick to them and those of his superiors and step-father to move ahead. A second choice he was facing pitted the woman's desire to marry against his own aversion to any formal obligation or, more generally, put the striving for conventional attributes of occupational and private success at odds with his own search for personal identity. A third aspect of the subject's directional crisis was the contradiction between his verbal radicalism and his practical inactivity concerning political affairs.

This crisis, however, was far from being resolved in a constructive way. At that time the subject was only beginning to think in a post-conventional manner. In the following years, however, he coped with it, made important decisions with long-term consequences and took upon himself greater responsibilities in his occupational and extra-occupational life. He left his job with the large company and went to a very small workshop that hired him as a service fitter who had to install and repair

machine tools in other companies. Increasingly, he also acquired orders for his firm himself. He also began a master craftsman's course of training. In his private sphere, he similarly overcame his uncertainty about the goals he considered worthy and assumed additional obligations. He and his partner moved in together and planned for and had a child. Yet he continued to refuse marriage. As before, he dealt critically with political problems.

In neither case did he choose a simple resolution to the conflict. Instead, he raised the complexity of the situations to which he exposed himself. In his occupation, for instance, he had to mediate autonomously between the demands of manufacturers, of his own contracting company and of customers. Their often contradictory demands and expectations could not be met by a merely conventional approach—the straight fulfilment of particular expectations or norms. This was possible only in a post-conventional way: through circumspect and far-sighted application of universal principles.

All this led us to predict that in 1987 he would reveal at least some more post-conventional thinking than he had earlier or that he would even already reason in a predominantly post-conventional way. Indeed, he was the subject reported above who, during the course of our longitudinal study, had passed from the conventional to the post-conventional level. His reasoning was exclusively post-conventional on one of our five dilemmas, primarily post-conventional on two other conflicts, and predominantly conventional, but with post-conventional tendencies, on the remaining two.

In sum, whereas the first case reported here emphasises the role played by occupational experiences and their interactions with extra-occupational factors in moral socialisation, the second case teaches that problems of direction, which must be solved if post-conventional patterns of moral reasoning are to develop, can affect both private life and occupational perspective—not only in the professions but also among skilled workers.

Discussion

As shown above, there was only one direction in which our findings diverged substantially. Two subjects who had been expected to continue their predominantly or partly pre-conventional reasoning were found in 1987 to be using thoroughly conventional reasoning. Hence, it was a matter of unexpected progressions taking place, not of expected progressions failing to appear. Having been unable to predict these outcomes on the basis of our *a priori* theoretical assumptions, we posited subsequent hypotheses that at least one of the supposed prerequisites for the transition from pre-conventional to conventional reasoning—involvement in manifest social problems and conflicts—might not be required in every case and that other social and/or psychological factors may substitute for this condition. These possibilities are discussed briefly in the following paragraphs.

1. Perhaps some of the conditions we list as necessary for moral development are redundant. It may be that other conditions can substitute for involvement in

manifest social problems and conflicts and that other functional equivalents are possible. Moreover, we have identified the remaining conditions without distinguishing thoroughly between those variants that may promote attainment of the conventional level and those that stimulate further moral development. In the research reported here, such discrimination *was* made in only one way, namely by registering the subject's involvement in contradictions between divergent social norms, expectations of others and so forth (apart from other types of social problems and conflicts) as a presumed promoter of post-conventional thinking. It *can* be done for the other conditions as well, however (see Lempert, 1988a). The explanatory and predictive power of the largely undifferentiated conditions indicates that correlations exist between exposure to contradictory normative demands (which we did register separately) and the respective type of communication, namely discussions on the legitimacy of the underlying values (which we did not segregate from other forms). If such intercorrelations and potential functional equivalents are presumed, the correct explanations and predictions derived from our theoretical assumptions may be less surprising than if the moral development of our subjects had been attributed to entirely independent factors, each performing its particular, irreplaceable function.

2. The thoroughly conventional reasoning of the two subjects whose moral-judgement structure we failed to predict correctly may be traced back to other social circumstances. It may, for instance, have been advanced by the direct influence of the constantly communicated social expectation that an adult skilled worker *has* to act according to conventional standards both on the job and in private life. This expectation may have contributed also to the development of other respondents whose formerly pre-conventional reasoning had been supplanted by conventional reasoning.

3. Another way to account for the incorrectly predicted and insufficiently explained cases may proceed from intrapsychic structures and/or processes. As empirically demonstrated by Kuhn *et al.* (1977), structures of moral judgement are supposed to require certain forms of logical thinking and social perspective. However, this can also be shown by conceptual analyses proving that those forms of thinking and understanding are implied in the respective definitions of moral stages (Brandtstädter, 1982). In either case, such thinking and understanding have been identified as necessary, but not sufficient, conditions of moral stages whose attainment additionally requires social stimulation. Therefore, whereas their absence may explain a concomitant lack of moral development, despite the presence of the requisite social conditions, their presence cannot explain the occurrence of moral development even when one or more of these social conditions are lacking. Hence, their consideration does not solve our problem. It might have been solved, however, if we had been able to observe self-reflective processes that may have replaced external stimulation, or at least supplemented it. Such supplementary influences must be expected not only in those instances where we have predicted incorrectly but in all others that appeared to be satisfactorily explicable by social circumstances and events alone.

Summary and Conclusions

1. Judging by the energetic responses to the five moral dilemmas presented in the interview (three of which concerned work conflicts), moral problems were relevant for most of the young workers studied. The subjects often justified or criticised their own actions, some also the experienced behaviour of others. Far from representing mere "middle-class ideology", morality therefore appears to be a central dimension of the cognitive and personality structure of workers, too.

2. Despite the similar social backgrounds, education, training and early occupational experiences of the respondents at the beginning of our longitudinal study in 1980–81, when they were about 23 years old, the subjects reasoned at very different moral levels, ranging from predominantly pre-conventional judgement (three of 19 cases) to primarily or exclusively post-conventional argumentations (an additional three). The relevant literature gave little or no cause to expect this range.

3. At the end of our fieldwork in 1987, when our respondents were about 30 years old, 13 had progressed considerably in their moral reasoning. The subjects who had previously argued pre-conventionally were now found at the conventional level. One had passed from there to post-conventional reasoning, and most of the rest had advanced their moral stage within the conventional domain. No substantial regressions were identified. Our sample thus met Piaget's criterion that cognitive stages form an invariant sequence.

4. Most of the observed progressions from 1980–81 to 1987 and all of the observed stagnations of moral reasoning corresponded to our theoretical assumptions that (a) manifest conflicts, free communication and participation in decision-making promote moral development at all levels; (b) empathy, love, care and recognition, along with information about the social consequences of individual and collective behaviour, particularly facilitate the transition to conventional orientations; and (c) coping with contradictory expectations, rules, norms and values, and taking appropriate responsibility for oneself and/or others leads to post-conventional thinking.

5. The developmental processes of our subjects—even some of the transitions from conventional to post-conventional reasoning—were strongly influenced by both private circumstances and occupational experiences. Occupational conditions were never the only relevant factors; in nearly all cases, however, they contributed considerably to moral development. Coping with social problems embedded in occupational tasks and work organisations may thus result in post-conventional thinking in both the course of professional careers and the occupational biographies of skilled workers.

Further theoretical work should aim to improve classification of the socio-biographical conditions that influence moral development. Analytically separable dimensions such as love, empathy and care should be differentiated more precisely, as should their variants, and should be segregated from the dimension of social recognition. The responsibility for oneself should be treated separately from the responsibility for others. Within each dimension, one should at least specify which variants presumably promote strategic (or, at best, pre-conventional) orientations,

conventional reasoning and post-conventional reflection, respectively. Additionally, the most frequent institutional and societal constellations of these variants should be conceptualised in light of the relevant literature, such as publications on the sociology of work, occupations and industry (see Lempert, 1988b).

Further empirical research based on these conceptual clarifications should consider other social groups, such as women, older people and adolescents, and other occupational groups, such as tradespeople, clerks, social-service employees, managers, professionals and semi-skilled and unskilled workers; and unemployed adults. An especially promising approach seems to be the empirical identification and systematic comparison of occupation-specific prerequisites for moral (and/or strategic) orientations and the attempt to relate them to personnel selection procedures and conditions of training and socialisation at work. As can be assumed of other personality dimensions, the anticipated selection processes themselves eventually exert strong influence on moral socialisation. By apportioning different amounts of gratification (including care and recognition) to different individuals, they may motivate the subjects to observe the perceived selection criteria and take them as guidelines for their overt behaviour and eventually (by gradually adapting them internally) as personally accepted standards.

Practical consequences of our research have to do with the evaluation and organisation of vocational education and training. In order to go beyond the improvement of mere technical qualifications and raise the level of moral orientations, pedagogical measures should always consider all social conditions known to facilitate the next developmental step that the individual is to perform. That person may often still think and argue pre-conventionally and should therefore be helped to pass to conventional orientations first. All moral education, however, will be of little or no use as long as work structures and career patterns are not formed or transformed accordingly. Since the most convincing moral lessons are taught by real life experiences, "moral" workers are not only required, but also produced by "moral" work.

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Correspondence: Professor Dr Wolfgang Lempert is a research fellow at the Max Planck Institute for Human Development and Education, Berlin, and Professor at the Free University of Berlin. Address: Lentzeallee 94, D-14195 Berlin 33.

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