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**Moral atmosphere: Its components and
its shape in vocational school and
training company**

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KLAUS BECK

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vocational school and training company**

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1. Introduction

1.1 Outline of the problem

According to the paradigmatic view of PIAGET and KOHLBERG on human development it is the stimulating power of the surrounding world which enables cognitive progress of an individual. Interacting with people, things and matters the young child begins to build a more and more sophisticated picture of the world, the rules, laws, and principles which govern it. The more social interactions an individual is involved in are differentiated and demanding in the higher is the probability that she or he will unfold all personal capacities which are only restricted by genetic limits. Reversely, the poorer the social environment, i.e. the more stereotypical, problem evading and externally controlled it is, the lower the opportunity for individual progress (PIAGET 1932).

As within that paradigm development is reconstructed as a process of self-establishing *on* and surmounting *of* cognitive stages it is the phase of stage passage which is of systematic importance and, therefore, needs special theoretical interest. There are two major issues to be modelled by a stage development theory of that type: firstly, the disintegration and reintegration process of the stage structure itself and its internal causes and, secondly, the variation of external social constellations which are of impact on the internal structure whether stabilizing or modifying. The present paper is mainly focused on the latter and deliberations are restricted to the development of moral judgement competence, i.e. it doesn't deal with the intellectual or with other competences which can be modelled in terms of stage developmental theory, too.

In following that track a framework for the description of social environments from the point of view of moral development theory is outlined (chap. 2). The data reported stem of a longitudinal study which was carried out with apprentices in insurance companies in Germany. Starting vocational education and training these persons enter two subjectively new "worlds", the social constellations in companies and the social constellations in vocational schools. The different qualities of moral atmosphere of both treatments will be described (chap. 4) and, finally, an analysis of individual moral development as explained by the influence of moral atmosphere is carried out (chap. 5).

As an objection to that rationale one could argue that there are many more sources of influence on the individual development of moral thinking and that looking only at company and vocational school as stimulators of moral development is an approach which is too narrow in scope. That argument is not at all false. But, opposite to KOHLBERG (COLBY/KOHLBERG 1987), it is claimed here that moral thinking has to be modelled theoretically as a domain specific competence. In other words: In our research group¹ we don't believe that KOHLBERG is right in maintaining his hypothesis of moral judgment to be conceived as a structured wholeness (cf. COLBY/KOHLBERG 1987, 6). Consequently, we argue that causes and incentives for moral development can be studied within a specific domain without looking at social conditions in other domains. Of course, we concede that domains a person is living in are not compartmentalized in a strict sense hindering any cross effects. But that is still another view than that of KOHLBERG which seems to be too idealistic in terms of empirical reality. Main reasons for our scepticism of KOHLBERG's view will be sketched out in chap. 3.

1.2. Method and initial findings

Before starting the next chapter an overview is given on the status of moral judgment competence of apprentices involved in our study aging between 18 and 25 years. To get data on the stage of competence sensu KOHLBERG – beside others – a dilemma contextualised to insurance companies has been administered.

An employee of an insurance company is asked by a widow to prompt the payment of her late husband's life insurance benefits. However, by the chance he has got the information that the deceased husband had already been seriously ill, when he signed the contract without mentioning a special risk. Should the employee retain the information and trigger payment, or should he pass the information on and refuse payment (*type of value conflict: affiliation vs. contract*)?

Variants on this case (*resp. variants of value conflicts situations*):

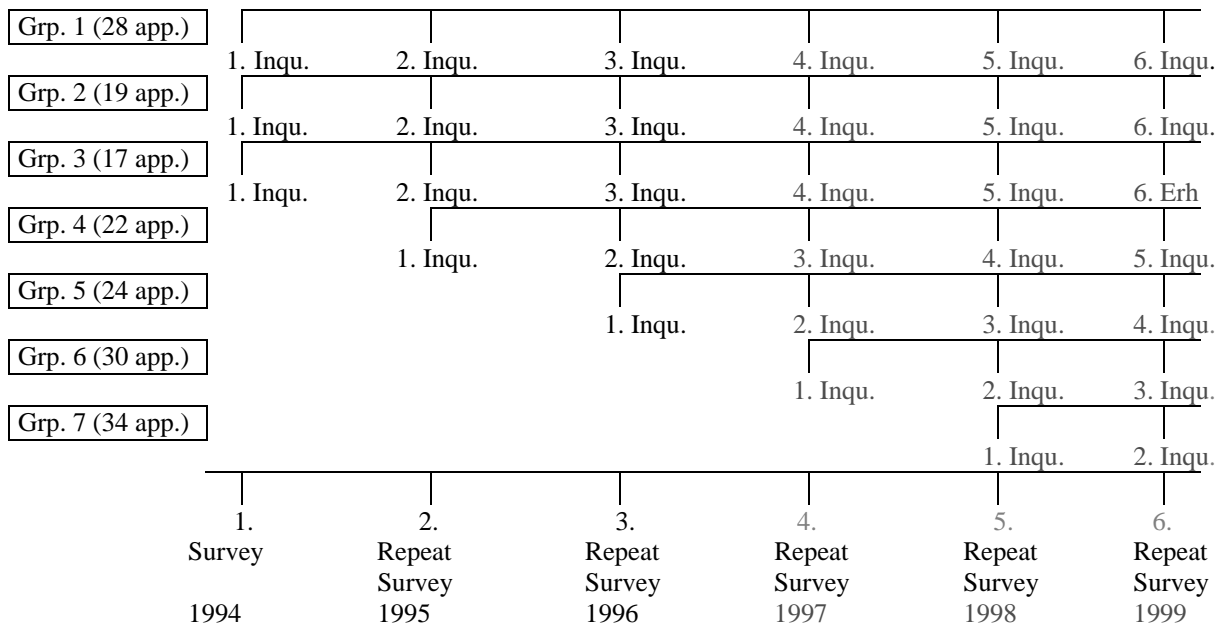
(a) The very pleasant widow lives in poor conditions (*positive affiliation vs. law/property*). (b) The widow condescendingly demands to transfer the money as soon as possible (*negative affiliation vs. law/property*). (c) The widow urgently needs the money to be able to afford an operation of vital importance that will not be paid by her health insurance (*life vs. law/property*). (d) The widow proposes to sign a life insurance contract to her name, if the employee pays the benefits of her husband's insurance. The employee would benefit from this new contract in terms of commission (*law vs. property*). (e) Shortly after subscribing to her new life insurance contract, the widow is offered the same contract by a rival firm at much better conditions. She asks the employee to cancel her

¹ The following persons of our group have worked or are still working on the topic discussed in this paper: Thomas Bienengräber, Andrea Dransfeld, Karin Heinrichs, Sigrid Lüdecke-Plümer, Gerhard Minnameier, Kirsten Parche-Kawik.

contract (*affiliation vs. contract*). (f) Should the personnel manager be lenient with the employee if his “generosity” becomes known (*justice vs. law*)?

Answers given partly by questionnaire, partly by interview were scored according to KOHLBERG’s rationale (cf. COLBY/KOHLBERG 1987). Additionally, the “Weighted Average Score (WAS)” was computed for use with multivariate analyses². Our sample consists of insurance apprentices being educated between 1994 and 1999 and becoming clerks after two years having passed a final exam. With respect to the issue of this paper we report on the material we gathered within the first three waves of inquiry. The design is depicted in fig. 1. Numbers of cases entered in different analyses vary according to the waves which are included; the later the wave the lower the number of cases.

Fig. 1: Design



Looking at the development of moral judgment competence as measured by the dilemma given above we find progress as well as stagnation but also regression. For a rough overview fig. 2 shows developments which have taken place with our apprentices within two years.

Numbers in the upper triangle represent cases of moral progress, numbers on the diagonal stagnation, and numbers in the lower triangle regression. As can be seen more than a half of the whole group is falling back one or even two stages.

² The preparation of data for the analyses presented in this paper was done mainly by Thomas Bienengraber.

Fig. 2: Developments in moral judgment competence (by modal stage)*

| Status at 1 st inquiry | Status at 3 rd inquiry | | | | sum |
|--------------------------------------|-----------------------------------|----|----|---|-----|
| | 1 | 2 | 3 | 4 | |
| 1 | 5 | 1 | 1 | - | 7 |
| 2 | 10 | 15 | 6 | - | 30 |
| 3 | 8 | 17 | 8 | 1 | 35 |
| 4 | - | 3 | - | - | 3 |
| sum | 23 | 36 | 15 | 1 | 75 |

* There are four cases at stage 2.5 and two at stage 1.5. For the overview given in this figure we assign them to the next full stage which was measured at one of the two inquiries, i.e. we follow a conservative allocation with respect to moral progression or regression.

The focus of this paper is not on further discussing the pattern of data given in fig. 2. Rather, we want to give an explanation of the reasons for movements and standstills to be observed. As stated above according to the PIAGETian and KOHLBERGian view moral development is originated and stimulated by experienced social interactions and with respect to that facet we agree with that theoretical approach. Looking not at the single acts but at the types of acts as an aggregated factor we can also use the notion “moral atmosphere” as a term to indicate the relevant stimulation structure for moral development. That conception will be described in more detail in the next chapter.

2. Dimensions of moral atmosphere

To get information on the social environment which influences moral development WOLFGANG LEMPert suggests to differentiate seven dimensions of moral atmosphere which he calls “socio-biographic conditions” (LEMPERT 1993). They are listed in fig. 3.

Fig. 3: Socio-biographic conditions of moral development

| Socio-biographic conditions | Influence on moral development | |
|-----------------------------|--------------------------------|---|
| | positive if ... | negative if ... |
| regard: as role occupant. | high | low |
| regard: as personality | high | low |
| conflicts | open | hidden |
| communication | free | restricted |
| co-operation | participatory | directorial |
| responsibility | adequate | inadequate (overcharging or undercharging) |
| scope of action | adequate | inadequate (overcharging or undercharging) |

As moral development, according to KOHLBERG, relies heavily on operations of prescriptive role-taking (cf. e. g. COLBY/KOHLBERG 1987, Vol. I, 24), *regard* from significant others seems to be a major precondition for taking other people' perspective in the first place. LEMPERT distinguishes regard as a good role occupant (which should stimulate especially the transition from pre-conventional to conventional morality) from regard as a unique personality (as a condition for the transition from conventional to post-conventional thinking).

Conflicts are thought to stimulate development in that they provide the material for reflection – but only if they are discussed in an open manner, so that the divergent views are laid out for consideration. If they are only hidden, this could lead to evading or downplaying conflicts altogether and thus produce just the opposite effect.

Communication is thought to be important, because different views of matters can be exchanged if those relations are not restricted. Free communication helps putting forward one's own opinions and having them discussed.

Co-operation brings about a need for co-ordination and self-organisation of teams which on the one hand implies social norms to be set and followed and on the other produces issues for individual moral reflection.

The chance to bear *responsibility* makes moral reflection in the domain more serious and could make plain possible consequences. This would again stimulate interactive sequences of reflection and action, where then the last condition comes in. Responsibility is thought not to be enough, but has, according to LEMPERT, to be matched with an adequate *scope of action* to be in fact accountable for what one is formally responsible. Both these last two conditions can be inadequate in that they are either overcharging (where things cannot be managed by the individual) or undercharging (where there are too many restrictions) and thus hinder moral development.

3. Domain specificity of moral thinking

As was already mentioned, KOHLBERG and his co-workers claim that moral judgment competence is a structured whole (COLBY/KOHLBERG 1987, 6). This is a very strong assertion because an individual empirically lives in different social environments (e.g. family, peers, schools, company, public areas). If these environments are dominated by different moral atmospheres the KOHLBERG theory has to explain whether and how structured wholeness is upheld against the competing moral influences. Of course, in terms of the *structure genetic theory* one can state that influences by a moral level lower than that an individual has already reached don't affect his or her moral development. But that implies that moral judgments are the outcomes of a procedure which first decontextualises the problem, then comes to a "general" judgment, and then re-contextualises this judgment to that field. Though that model might offer a possible description of the process of moral judgment production it is not very plausible – at least because it is not compatible with the recent theories of knowledge acquisition and application highlighting the domain specificity of cognition (cf. MANDL/GERSTENMAIER 2000).

An alternative hypothesis could be founded in the theoretical approach of *situationism*. From that point of view different conditions for (moral) development in different domains of life may cause domain-specific modes of (moral) thinking (cf. MCLELLAN 1996). Moreover, domain-specific (moral) perspectives already acquired can be of influence on the way the qualities of a social environment are perceived by the individual thus reinforcing or stabilising that pattern of (moral) thinking.

To give an example, we can think of a person being the member of a mountain climbing-club and, at the same time, is working in a trade company. Whereas in business life it is necessary

and (morally) acceptable to make contracts to the profit of a company, to compete and to be successful on the cost of other market agents the standards for acting in the club are more likely to be based on friendship, on mutual helpfulness and even on acceptance of personal disadvantages to the benefit of others. We can interpret this case such that with respect to these two “worlds of life” the person develops different moral orientations each of them being activated by perception of the respective specific context.

According to that approach we can speak of segmented or differentiated moral judgment competence (cf. REST 1979; KREBS et al, 1991). Though by this view KOHLBERG’s hypothesis of *structural wholeness* is not upheld one can still keep his conception of *moral structures* as defined by his stage descriptions. But, following REST (1979), the idea is here, that development means to internalise new (higher) stages yet not by abandoning the lower ones. They stay in use and usually are activated by stimuli learned during the individual development. To put it in terms of role theory: The process of taking a new role includes acquisition of moral standards as part of the set of role expectations. Playing any role implies orientation at moral standards associated with that role. Concedingly, we are not sure whether it is only and exclusively the role which activates certain moral standards. At the present stage of our knowledge also (types of) problems, topics and issues could evoke specific moral considerations. Domain specificity of moral judgments in that sense means that there are comparatively strong connections between certain thematic fields of norming problems and moral standards being used for their solution, i.e. moral stages.

Now, looking at vocational education, companies on the one and schools visited by apprentices on the other side can be conceived as moral domains as sketched out above. How they influence and shape moral thinking of persons acting within that domains is determined by their moral atmosphere. To be a little bit more exact our hypothesis is that the conditions as perceived by a person form together the moral atmosphere of a domain which in turn is of influence on her or his choice of a moral principle (i.e. moral stage) as a basis on which a certain moral judgment is produced. Moral atmospheres differ not only with respect to their impact on actual genesis of judgments but also with respect to the direction of moral development connected to that domain. They may stabilise moral thinking on a given stage as well as stimulate moral progression or regression. The direction of influence is relative to the stage

which has been reached in the past within a certain domain or which is first activated when a new domain is entered by the individual.

4. Moral atmosphere in companies and vocational schools

4.1. Psychological status of moral atmosphere

Though it seems to be self-evident it might be worthwhile to note that “moral atmosphere” is a subject related concept. There is no moral entity existing independently of human beings³. “Moral atmosphere” is (re-)constructed by individual perception and interpretation of “social facts”, i.e. of qualities of direct and indirect social interactions whether experienced by being personally involved or only by observation of other actors. Consequently, information on characteristics of “moral atmosphere” as a personal construct can only be collected by inquiry of the persons themselves, their feelings and attitudes.

There is no “objective” property of moral atmosphere. Even within one and the same social environment different persons can identify and feel different qualities of moral atmosphere (cf. BIENENGRÄBER 2000). On the other hand, of course, different persons may have very similar or actually the same impressions of moral atmosphere in a shared environment especially if they are activating the same stage of moral thinking (which, in turn, is very likely because it is the prevalence of a certain moral stage used by the actors which forms the moral atmosphere of a domain). In that case it makes sense to aggregate data from their reports on moral atmosphere and to interpret them as characteristic features of a certain environment. To do so with respect to company and vocational school might be the more reasonable as in these environments many formal as well as informal rules and traditions of social interaction are upheld by institutional conditions. Hence, in the following we describe the “two” atmospheres in terms of aggregate “virtual” entities keeping in mind their real nature as concordance of more or less coinciding individual constructions.

4.2. Measurement procedure, quantification, and quality of data

The questionnaire we administered included besides different moral dilemmas several items concentrating on the seven dimensions of moral atmosphere (all in all, data collection by paper-pencil-instruments took about up to four hours every year; interviews with a subsample took up to six hours per year; both procedures were divided up into two or three sessions at

each annual inquiry). We not only asked how the quality of each dimension was perceived by our testees (whether positive, neutral or negative) but also how important they felt these dimensions to be and, with respect to conflicts, how often and as how serious they were experienced. Additionally, looking at vocational schools we differentiated between five subjects, so to say as “sub-atmospheres” (Business/general, Insurance, German, Social Studies, Religion) and, in view of both, company and vocational school, we put the relevant questions separately for the respective partners of interaction (i.e. in companies educating chief, colleagues, and co-apprentices, in schools teachers and school-fellows). From that data we calculated for every person and for each dimension an overall individual score running from +1.0 (stimulating, pushing upwards) through 0.0 (neutral, stabilizing) to -1.0 (hindering, pulling down). For a detailed description of that procedure cf. BIENENGRÄBER (2001).

As outlined above one and the same environment may be perceived differently depending on the moral stage an individual usually activates in that environment. To give an example, if a person in a certain environment habitually is producing judgments in terms of stage 2 and if in that environment she or he is witnessing a conflict of two other actors on competing values – a matter which could stimulate a “stage 4-individual” to move up to stage 5 – that person will perceive the situation as a simple dispute on personal interests and thus will be stabilised on her or his current stage. At the same time if that conflict is verbalised by the actors in an “appropriate” way our stage 2-person could understand it as a dispute on individual interest and generalisable norms. In that case the episode would have a stimulating effect for her or him to climb stage 3. If a “stage 3-person” is observing that dispute she or he could perceive it as a mere conflict on personal interest and thus get incentives for regression and so forth.

From that example it becomes clear that the information on perceptions given by testees is always relative to their personal status of development. Nevertheless it makes sense to aggregate data on perceptions of morally different persons because they carry comparable information on the relative quality of atmosphere in terms of stimulating progress *or* stagnation *or* regression.

³ We are not discussing here the issue of morals in extra-human nature though it might be at least of considerable relevance for the understanding of human social behavior.

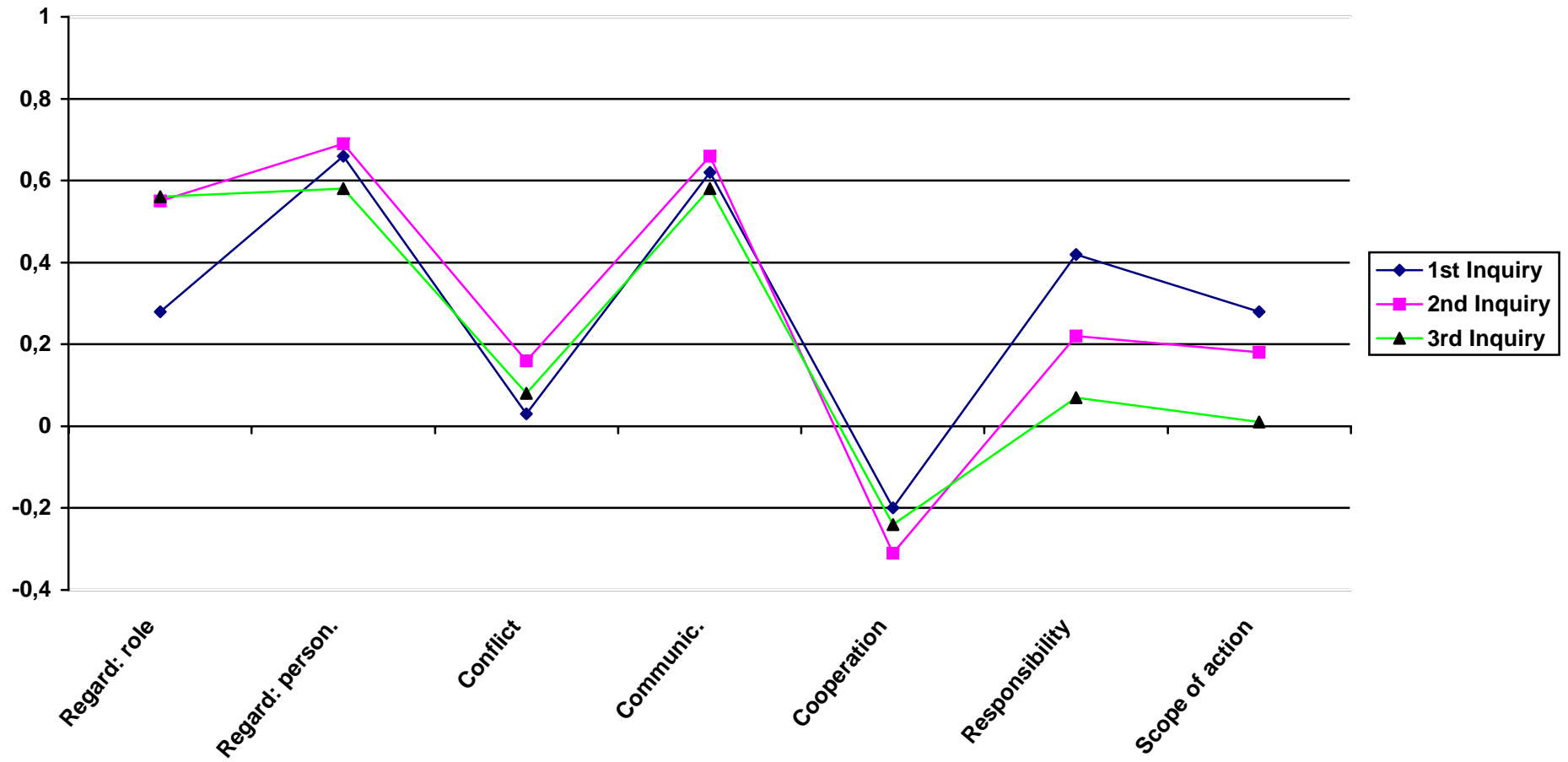
4.3 Moral atmosphere of vocational school

Looking at the mean values of the seven dimensions of moral atmosphere in school we have to remark that there are considerable differences. Three of them, namely the two “regard” dimensions and the “communication” dimension, show – all in all – reasonable high levels of stimulating quality whereas the other four dimensions fall back, “cooperation” even below the zero-line (cf. fig. 4). To condense the information given in fig. 4 a bit more one can divide up the scale running from $-1.$ to $+1.$ in three parts, defining the middle part ($-.3$ to $+.3$) as stabilizing (or neutral). From that view, the four dimensions “conflict”, “co-operation”, “responsibility”, and “scope of action” are, roughly spoken, of stabilising quality; experienced regard as a good role occupant and as an individual personality as well as the way of communication show mainly stimulating quality.

Differences between the first and the third inquiry within each dimension are partly significant: There is a clear gain in “regard as role occupant” ($p = 0 .005$) opposed to clear losses in “responsibility” ($p = .015$) and “scope of action” ($p = .002$). These differences over time are relatively easy to understand. In the beginning of an apprenticeship the role to be played by the young people is not yet well defined. Therefore they cannot perceive regard by teachers in that facet of social interaction with sufficient stability of meaning of that concept. And teachers, at the same time, have not yet got a valid picture of vocational competences and capacities of their students. Thus, only after the first year regard as role occupant (as a future insurance clerk) reaches values which, then, stay more or less stable.

“Responsibility” and “scope of action” in vocational school refer to whether one feels to be overcharged or undercharged with responsibility for one’s own learning process and its outcomes and to whether one feels to have room enough for self-organised learning activities. If in both dimensions a testee has a good feeling her or his scores should lie above $+ .3$ on our scale. As can be seen from fig. 4 the scores in these two dimensions drop down year by year. That loss is very likely initiated by the upcoming final exam when the students remark that there is still a lot to learn and when teachers for the same reasons try to get more and more control on the learning process of their students.

Tab. 4: Profile of moral atmosphere: Vocational School



It is a bit surprising that the scores for “conflict” and “co-operation” lie on a comparatively low level. The latter might be partly due to the fact that there is a fixed curriculum which doesn’t students allow to get influence on the contents of learning. But these values indicate also that teachers feel not to be open for suggestions of students on how to construct lessons methodologically.

Also with respect to conflicts teachers are perceived as fairly strict and as insisting on hierarchical differences in settling controversies. Nevertheless, they also seem to be ready to communicate with their students in a predominantly symmetric style.

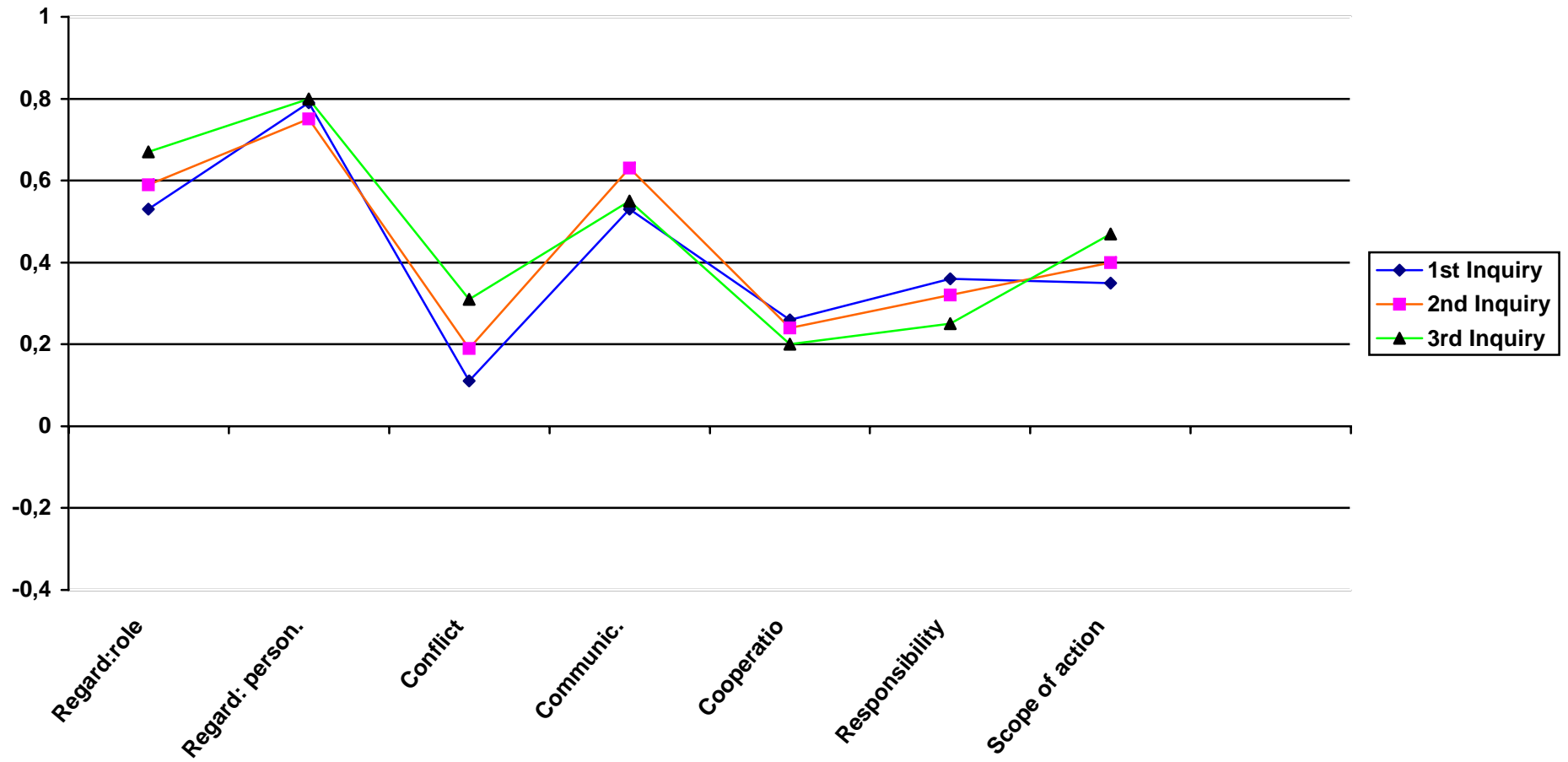
All in all, the moral atmosphere of vocational school is not very bad but its profile shows some important breaks. The students signalise that they feel not round and round happy within the environment of vocational school. And that feeling doesn’t improve during apprenticeship. Finally, vocational schools seem not to fulfil their own pedagogical claims. Though there is really not much room for student decisions on the content of lessons it can be seen critically that the way one is dealing with conflicts and the extent to which students are included in decisions on how to teach and how to learn seem not to reach common pedagogical standards.

4.4. Moral atmosphere of company

Compared to vocational school the atmosphere in companies seems to be experienced by our apprentices in a similar way (cf. fig. 5). Again, “regard” and “communication” show scores of higher levels than the other dimensions. On the other hand, opposite to vocational school in company “scope of action” lies within the stimulating range (+ .3 ... 1.0). “Responsibility”, too, reaches values located around the (virtual!) boundary (+ .3) between the stimulating and the stabilising range as well as “co-operation”. And the scores of the “conflict” dimension improve during apprenticeship from a relatively low starting point + .11 up to + .31 ($p = .06$)⁴. The overall level of apprentice assessments turns out to be higher than that of vocational schools.

⁴ The other differences over time are not significant.

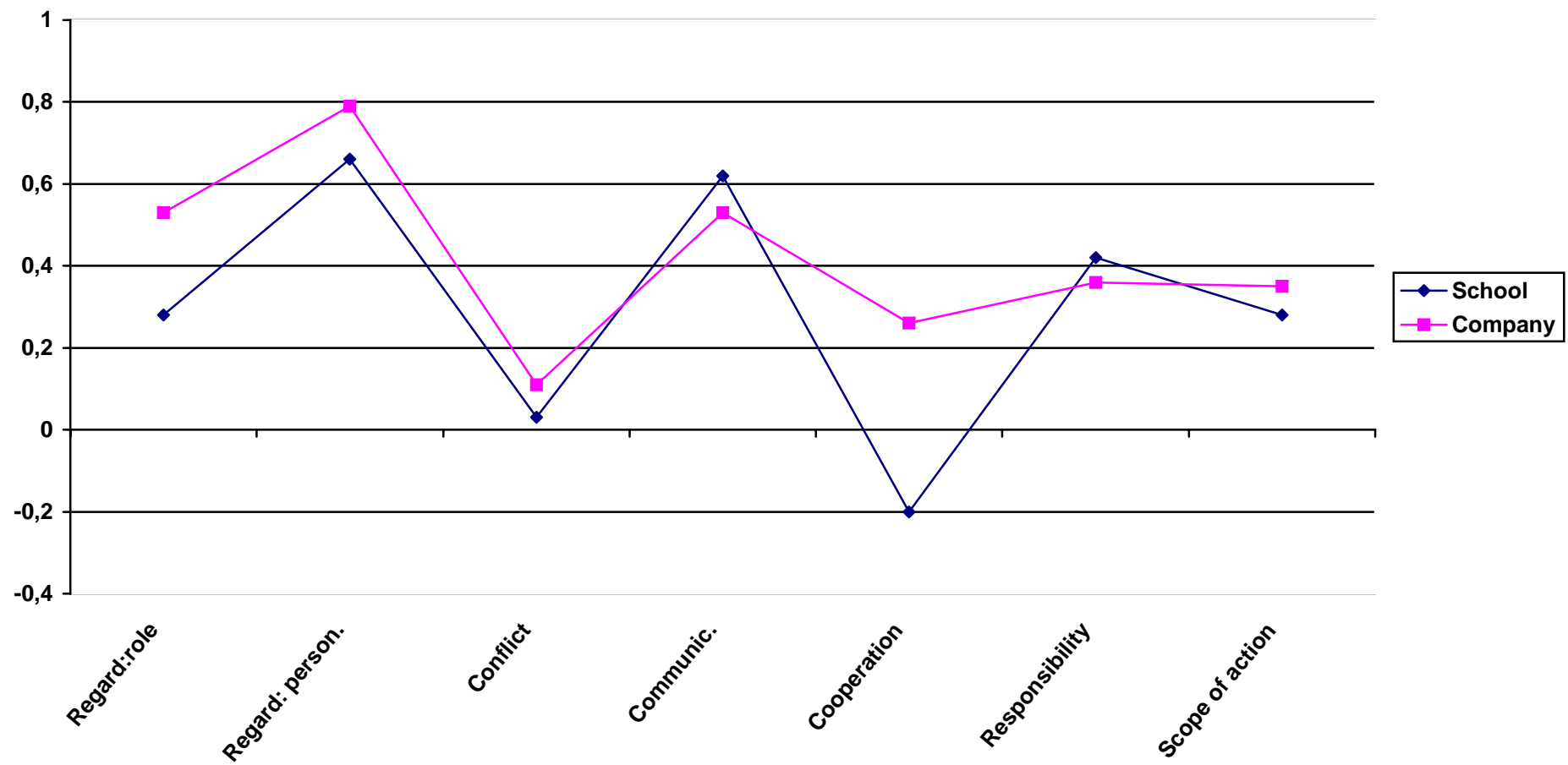
Tab. 5: Profile of moral atmosphere: Company



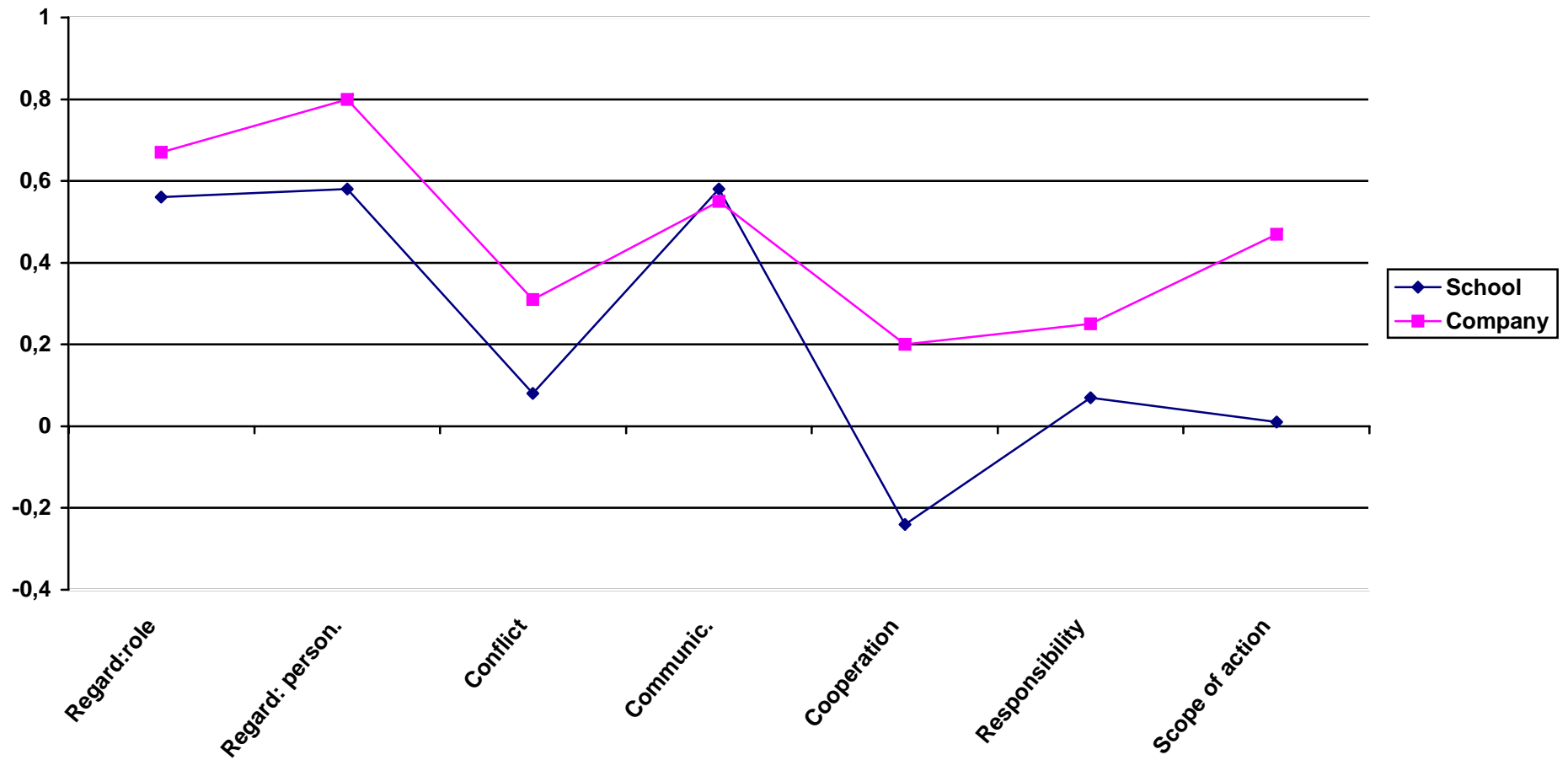
Again, there are plausible reasons for these findings. Firstly, one has to take into account that our apprentices when they start their vocational education enter a new “world” after having up to 13 years of experience with school. They are often “school-tired”; to them everything else than school appears to be more attractive and therefore is valued higher. Secondly, staying in a company and experiencing “seriousness of vocational life” supports the impression of being part of the “real world” beyond the artificial character of school situations. And, thirdly, apprentices usually are hoping that after finishing their vocational education with a good final exam they get a job in the educating company. From this point of view, their situation is really serious and of considerable importance for them. As vocational school is part of the system in which one has to earn good marks for the final exam it takes some advantage of that constellation. But from the perspective of apprentices (as students) school is seen more as *instrumental* for their career plans whereas learning in company enjoys more intrinsic motivation and, hence, its social atmosphere is likely to be perceived and interpreted positively, even if the “*facta bruta*” are not as pleasant as they are at school. Companies seem to get something like “payment in advance” by apprentices because of their biographical importance for the young people.

As it were, it is true that the moral atmosphere in companies is perceived more stimulating for moral development than the atmosphere in school. On the other hand in both environments conditions are not of a quality which is apt to stimulate moral progress. As LEMPERT (1993) states, *all* of the “socio-biographic” conditions have to be experienced at the same time on a high level for at least two years if moral progress is to be fostered. Obviously, that is not the case in the given settings (cf. fig. 6a, b): Not only that vocational school and company differ in quality of moral atmosphere. That difference is growing from the beginning of apprenticeship until its end (the geometric mean of squared deviations of pairs of profile stalks for school and company is nearly doubled from .32 to .60 within the two years of vocational education). Moreover, both settings cause variations of perceptions of moral atmosphere over time to such an extent that it is not possible to experience and to assess them as constantly homogenous (geometric mean of squared deviations over time within school: .53, within company: .30).

Tab. 6a: Profiles of moral atmosphere: Company and School (1st inquiry)



Tab. 6b: Profiles of moral atmosphere: Company and School (3rd inquiry)



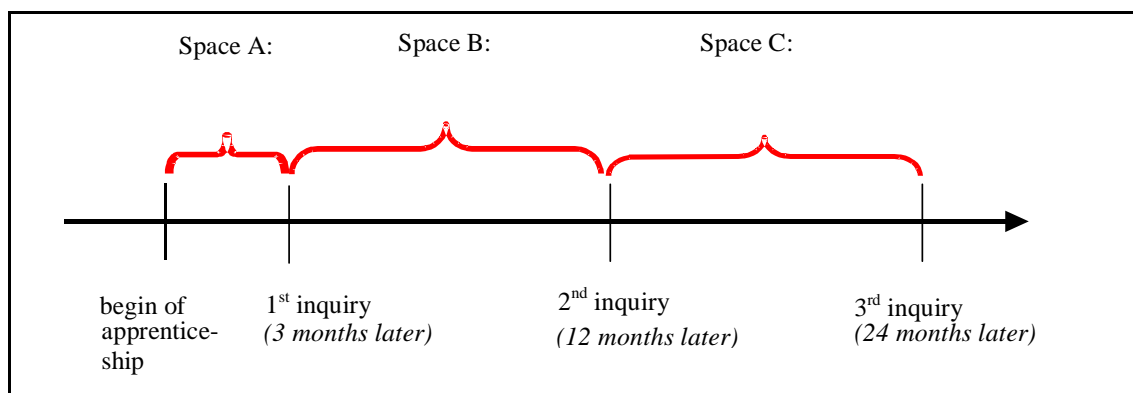
For theorists and practitioners these findings might sound not satisfying because they signalise a high likelihood for moral stagnation or even regression. On the other hand, if our hypothesis of domain specificity of moral judgment can be held any development whether “up” or “down” as well as stagnation can be understood as moral adaptation to a special environment. As was showed in fig. 2 we found different development movements which might be seen as indicators for adaptation procedures to the level of moral discourse of a certain domain. Theoretically these movements should be predictable by variation of perceived social conditions of that domain. Whether this is possible or not is the topic of the next (final) chapter.

5. The impact of moral atmosphere on moral development

Looking at the data at hand several analyses might be modelled. Fig. 7 illustrates the spaces of time covered by our questionnaires at each inquiry. The first inquiry took place after three months of training, the second after one year, and the third after two years (see also fig. 1). Each time apprentices were asked to give information on their experiences and perceptions within the period since the last inquiry or the beginning of vocational education, respectively. At the same time their level of moral thinking was measured.

To get information on relations between social conditions and developmental movements in moral judgment competence several regression analyses were carried out. As dependent variable for the first analysis the difference of Weighted Average Scores (WAS) between the first and the third inquiry has been computed which can be conceived as a continuous value. Scores of the seven dimensions of atmosphere (see fig. 3) vary continuously, too (-1.0 ... +1.0).

Fig. 7: Spaces and dates of inquiry



Given the status of research it still lies beyond our knowledge how long it takes until a given social constellation causes movements in moral development. As far as can be seen there is no empirical bases for hypotheses on that relation with respect to time amounts. Moral develop-

ment theory is not yet sophisticated enough to offer arguments for quantitative estimations on time necessary for the occurrence of effects. It is still unknown how long it takes to move up or down one stage (the latter might go on much faster than the former). As mentioned above, LEMPERT (1993, 3) assumes that social conditions apt to stimulate moral progress need to persist at least for two years. That supposition is based on experiences with a seven years longitudinal study on moral development of some twenty skilled workers (LEMPERT 1988). But there is still no theoretical basis for it.

In that situation an exploratory regression analysis was carried out with all $(3 \times (7 + 7)) = 42$ scores of moral atmosphere for each of the periods A, B, C covered by the three inquiries (see fig. 3 and 7). Lacking of elaborated theoretical assumptions on the character of processes involved the linear model was applied using stepwise inclusion of variables. The result is given in fig. 8.

Fig. 8.: Stepwise Regression of scores of moral atmosphere on moral development: WAS difference between 1st and 3rd inquiry

| Variable | B | Beta | T | Sign. |
|--|-------|-------|--------|-------|
| constant | -.621 | - | -2.821 | .009 |
| conflict (school, space C) | .724 | .590 | 4.119 | .000 |
| communication (company, space B) | .861 | .542 | 3.754 | .001 |
| regard: role occ. (school, space C) | -.950 | -.421 | -2.773 | .010 |

All other variables being excluded. R^2 (corrected) = .453.

| ANOVA | Sum of squares | df | mean squares | F | Sign. |
|------------|----------------|----|--------------|-------|-------|
| regression | 9.091 | 3 | 3.030 | 9.268 | .000 |
| residuals | 8.829 | 27 | .327 | | |

Apparently, there is no pattern to be discovered which might be of theoretical meaning. Moreover, the negative sign of B for “regard as role occupant” is not at all compatible with the theoretical expectation that regard granted by teachers and schoolfellows should stimulate moral progression rather than moral regression. And it is a bit disappointing that there are only three out of 42 variables showing significant capacity to predict the variation of the dependent variable (to a not very spectacular amount of 45 %). More so, that result mediates the impression of being more or less accidental.

One reason for that irritating result could be seen in the issue that a cumulative view on the data does not uncover the filigree of the real processes. Our data are possibly not at all differentiated enough to get insight in the details of moral development theoretically postulated so far. Nevertheless, two further regression analyses were carried out to get closer to the matters and facts to be studied. Now, WAS differences between the *first* and the *second* inquiry as well as between the *second* and the *third* inquiry were treated separately using atmosphere data of spaces A and B for the former, of spaces B and C for the latter case as independent variables. The results of these computations are given in fig. 9a and 9b.

Fig. 9a: Stepwise Regression of scores of moral atmosphere on moral development: WAS difference between 1st and 2nd inquiry

| Variable | B | Beta | T | Sign. |
|---|-------|------|--------|-------|
| constant | -.862 | - | -4.962 | .000 |
| regard: role occ. (company, space B) | .458 | .269 | 2.483 | .015 |
| regard: role occ. (school, space A) | .326 | .224 | 2.032 | .046 |
| regard: role occ. (company, space A) | .408 | .223 | 2.017 | .048 |

All other variables being excluded. R^2 (corrected) = .176.

| ANOVA | Sum of squares | df | mean squares | F | Sign. |
|------------|----------------|----|--------------|-------|-------|
| regression | 6.415 | 3 | 2.138 | 6.038 | .001 |
| residuals | 24.082 | 68 | .354 | | |

It can easily be seen that results are still not stable if one is looking for valid factors of constant and strong influence on the dependant variable. On the other hand the analysis reported in fig. 9a shows an outcome nearly perfectly in line with LEMPERT's assumption that regard is something like a key condition for moral development (1993, 3; cf. also PIAGET 1986, 108-110). He claims that all other conditions even if shaped throughout positively will not stimulate moral progress as long as regard is not granted.

Again, the numbers given in fig. 9b seem to be contradictory to LEMPERT's assumption. They reflect what has been remarked in looking at fig. 8. Even if LEMPERT's hypothesis is a bit too strong it is not at all plausible that denial or withdrawal of regard are correlated with moral progress and v.v. There might be two *ad-hoc* explanations for that finding. The first would argue that it is just denial or withdrawal of regard that stimulates deep rethinking of social relations by the person concerned and therefore allowing for or even provoking moral

progress. The second explanation would refer to the thesis of paradox effects of praise (HOFER 1983). Analogously, regard by teachers could evoke opposite feelings, i.e. emotions of disregard, with students. The reason for that is seen in the fact that regard by persons who are refused or rejected by the perceiving subject might have the same effects as has disregard by persons who are respected by the perceiving subject. Both explanations are not very strong and, additionally, they are not funded in theory of moral development.

Fig. 9b: Stepwise Regression of scores of moral atmosphere on moral development: WAS difference between 2nd and 3rd inquiry

| Variable | B | Beta | T | Sign. |
|--|-------|-------|--------|-------|
| constant | -.055 | - | -.272 | .787 |
| conflict (school, space C) | .594 | .598 | 5.244 | .000 |
| regard: role occ. (school, space C) | -.972 | -.457 | -3.820 | .000 |
| communication (company, space B) | .631 | .372 | 3.179 | .003 |
| co-operation (school, space B) | .376 | .239 | 2.082 | .044 |

All other variables being excluded. R^2 (corrected) = .482

| ANOVA | Sum of squares | df | mean squares | F | Sign. |
|------------|----------------|----|--------------|--------|-------|
| regression | 11.514 | 4 | 2.878 | 11.232 | .000 |
| residuals | 10.251 | 40 | .256 | | |

At that state of analyses we cannot say that there is enough evidence for LEMPERT's hypothesis to be held. But, the other way round, the findings are also not clear enough for its rejection. Our data are not yet exhausted by the regression analyses reported above. The first point to be questioned is whether the linear model is adequate in trying to fit the data. Unfortunately, we don't have time series data including, say, four to six measuring points per year which would allow for tests of curvilinear model fit. Taking into account the expenditure for one measurement for the researcher as well as for the testee it seems to be very unlikely that it is possible to get a solid data basis for analyses of that type.

What is still left to do with our data is to look at them in more detail by focusing on the varying aspects of social interaction experience of the young people. As was reported in chap. 4.2, our material is differentiated with respect to *school* into subjects, teachers, and studentfellows, with respect to *company* into heads of departments, colleagues, and fellow

apprentices. The multivariate analyses presented in this chapter were based on mean values consisting of single values on that components of socio-moral atmosphere. They can be disaggregated and thus reveal the original variance which might have been swallowed partly by summing-up detailed information.

One further step in analysing the material will be to carry out case studies. Especially the 48 persons from whom we have a series of interviews are almost predestinated for analyses of that kind. Following that strategy we try to “pull out” from our data all information supporting the hypothesis on the relation between socio-moral conditions as focused in our study and movements in moral development. But, of course, we follow that track without any passion: If there is not enough support to be found for that hypothesis we will have to abandon it and to look for other social facts causing moral development.

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