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**VW AT THE TURNING POINT -
SUCCESS AND CRISIS OF A GERMAN PRODUCTION CONCEPT**

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1. WHAT IS GOING ON AT VOLKSWAGEN?

The Volkswagen corporation had a world market share of 9.7% of the car production in 1992 and was competing with Nissan for the fourth place among the world automobile manufacturers; in Western Europe the company had the leading position with a market share of 17.6% and in Germany it was the undisputed number one with 29.6%. The number of employees in the corporation had grown, with minor fluctuations, continuously for over a decade and with 276,000 in 1991 was around 7% higher than the 1981 level (247,000). With around 160,000 employees in Germany, the number of domestic employees remained largely at the same level until 1991, a level which was already achieved at the beginning of the 1970s and which VW only went under once, drastically, in the first oil crisis. The *Volkswagen Aktiengesellschaft* (VW AG) had remained the core organization of the VW corporation with more than a 50% share of sales, turnover and employment at the beginning of the 1990s.

Volkswagen had thus come through a developmental phase in the world automobile industry with great success in which many of its competitors had to struggle to survive. At the beginning of the 1990s it was at the pinnacle of its success: it could only keep up with demand through a full utilization of its capacities. In 1991 the VW corporation attained the highest sales revenues and, with 3.1 million, the highest number of units were sold in its history. And just at this point in time the crisis set in. "VW: 'We can only pray'", was the comment of *DER SPIEGEL* at the end of 1992 as it revealed that Volkswagen has enormous losses in operative results in the year of its greatest success. "The company sold more cars than it ever has, ... but is, at the same time, weaker than ever" (*DER SPIEGEL* No. 49, November 30, 1992, pg. 136). The VW AG had been producing since the end of the 1980s at a cost level which caused the break-even point to increase to over 100%. In view of the recession, which has also taken hold of Germany in 1993, and the sinking degree of capacity utilization, the situation has been worsening dramatically. A dangerous degree of indebtedness has been reached; the crisis is far-reaching and a threat to VW's existence.

In this situation it is difficult to reflect on the company's history, describe its developmental path, and assess the new concepts which are emerging. How strong are the elements of continuity with the company's history, to what extent can the crisis be dealt with within existing forms of regulation and institutions or will these also break down, to what extent must the new production concepts which have been introduced since the end of the 1980s be discarded in favor of entirely new (or entirely old) concepts? These questions can only be posed in the following, but not answered. But it can be expected that despite a spectacular change in management policy and drastic measures of reorganization, the inertia of the VW-specific regulation forms will still retain a considerable influence and that the characteristic features of the VW developmental model will also leave their mark on the form in which the crisis is dealt with.

In the following we will look at certain critical phases in the history of the company. We will first deal with the development of VW up to the crisis of the "Beetle culture" and the radical change in the company in the middle of the 1970s. Following this (section 3) we will describe the basic features of the regulation model of the 1980s - VW can be seen as a prototype for the "German model" which has been seen by many observers as an alternative to Toyotism or Volvoism. Finally, we will describe the crisis of this model at the end of the 1980s and thus complete the circle to the questions as to the perspectives and the emerging regulation model in this introductory chapter.

2. FORMATIVE PHASES IN THE EARLY HISTORY OF THE COMPANY

The history of the origin of VW before WW II, the postwar success of the Beetle, as well as the crisis situation in the 1970s were formative phases for the "corporate culture" and its regulation forms which continue to have an effect today.

2.1. The genesis phase - VW as the industrialization model of National Socialism:

The concept of the "*Volkswagen*" (car for the people) emerged in the first weeks after the National Socialists took power in Germany (cf. Vorstand und Gesamtbetriebsrat der VW AG 1988; Doleschal 1982). "*Volksmotorisierung*" (motorization of the people), "*Reichsautobahn*" (state freeway), and "*Volkswagen*" were central elements of National Socialist social policy, legitimating and consolidating their power. The models were the Ford Model-T and the Fordist system of mass production. The following elements were thus connected with the "*Volkswagen*" production system:

- The product concept of a small car with a price which is affordable for the "masses";
- A production system which uses the advantages of mass production. The Ford River Rouge plant and its most modern production procedures were copied; certain machines and equipment were purchased in the USA; .
- The "*Deutsche Arbeiterfront*" (DAF, German Worker's Front), which had the function of organizing the social and cultural needs of the workers in National Socialism and thus functioned as a surrogate union, was entrusted with the construction and operation of the Volkswagen company.
- A savings system was set up as a financing model to also allow low earners to envision themselves as future vehicle owners. This "KdF (*Kraft durch Freude* - strength through joy) savings system" was an important part of the NS "people's car" ideology; in 1941 there were 300,000 KdF savers.

VW never reached the stage of mass production before the war; none of the savers got a car; at the beginning of the war the plant was converted to military production.

2.2. The phase of the new beginning - codetermination and export oriented Fordism:

After the Second World War Volkswagen was put under the control of the British military administration and the first civilian vehicles were manufactured as reparation for the Allied Control Commission. In 1949 the supervision of the company was handed over to the state of Lower Saxony. Even after the partial privatization of the company in the course of its transformation into a stock corporation and the later reduction of the state share, the state remained dominant in the company's board of directors.

The institution of factory interest representation had established itself firmly in the company even before it was given over to German management. After its formal statutory institutionalization, the works council played a central role in the company. Important decisions were coordinated with the works council - this at times went beyond the provisions of the Works Constitution Act. The works council had de facto control over management careers. The also in the German context - distinctive codetermination which arose from this was strengthened by the fact that Volkswagen, as a purely state-owned company (at that time), did not become a member of the Employers' Association and institutionalized its own VW collective bargaining system. Whereas for the rest of the metal related industries collective

bargaining takes place between the regional employers' federations - including companies of different size and economic strength not just from the auto industry but also the machine tool industry, electrotechnical and other metal related industries - with the regional branches of the IG Metall, collective bargaining at Volkswagen AG for all its plants requires only two partners: the company and the IG Metall branch for lower Lower Saxony. This gives the works council the opportunity of tailoring the agreements more to its own and company-specific line of policy due to the considerable influence which they actually have on the IG Metall negotiators. This peculiarity of its industrial relations' system shows some features of company unionism, but in practice the mechanisms of policy coordination within IG Metall have made sure so far that the system of labor regulation at Volkswagen more or less remained in line with the rest of the industry.

In the 1950s, the concept of a "people's car" provided the right product at the right time. Especially due to its export success the VW quickly became a Fordist mass manufacturer of cars:

- in 1948, 25% of the yearly production (of only 20,000 vehicles, though) was exported. The export share of the production increased to over 50% as early as the beginning of the 1950s; the USA became the largest buyer of the German people's car.
- The product concept for the Beetle from 1936 was largely retained for more than 20 years, a total of twelve million cars of this type were produced in Wolfsburg. The Beetle made up around 70% of the entire production of the VW AG still in 1970.
- The standard product was produced with highly standardized process equipment. The high production volume justified, economically, high investments in process equipment; thus the degree of mechanization in the machining and in the body shop areas for the Beetle production was very high at the end of the 1960s already. In the bodyshop of the Wolfsburg plant it exceeded 80% and in fact, the degree of mechanization was lowered when robot based flexible technology was brought in by the mid of the 1970s. The technological requirements led to the emergence of new job categories like the *Anlagenführer* (automated systems controller) in the 1960s (He became the prototype figure of the "new production concepts" described by Kern/Schumann in 1984). The equipment was dedicated and inflexible.
- The Fordist production concept required large masses of unskilled workers in the assembly areas; thus, Volkswagen became a major employer for those who fled from Eastern Europe during the 1950s and, after this period of war-induced migration had come to an end, the company began recruiting "*Gastarbeiter*" (foreign workers). The first came from Italy in 1962. Due to this reservoir of undemanding workers the pressure to improve working conditions and to embark on new concepts of work as they were being discussed in Sweden in the 1960s already, remained quite low at Volkswagen until the 1970s.

2.3. The first oil crisis and the beginning of the break-up of Fordist structures:

At the end of the 1960s, the VW Fordism entered a period of crisis. Repeated changes were made in top management and dissent developed between management and the works council in questions of strategy; failed attempts to develop successful new products intensified the consciousness of a crisis. The pressure increased on the product development function which had been of little importance so far; if a successor model for the Beetle could not be developed, the end of the company could be foreseen. The internal problems were aggravated in 1974 by the first oil crisis. But this dual crisis was dealt with in a close cooperation between the (central) works council and top management in a form which was praised by both sides.

The Golf, a completely new developed car, almost immediately took over the role of the Beetle as the major bread-earner product for the company. The Passat (1973), the Golf (1974) and the Polo (1975) introduced during this period ought to remain the three major platforms for Volkswagen's model policy up to the end of the 1980s.

The institutions of jointness between the works council and management were considerably strengthened by the successful crisis management. A reduction of about 30% of the entire work force could be carried out without firings (through not replacing fluctuations, early retirement, and severance pay). But the foreign workers were affected to an above average extent; the share of foreign workers in the entire work force was reduced in this period by 66%. VW would no longer count on this "employment buffer" to such an extent in the future.

Against this background, the basic features of a modernization pact emerged: in exchange for the company commitment for increasing employment security in the future the union/ works council accepted the large scale introduction of new technology and the long time controversial issue of establishing a plant in VW's main export market, i.e. in the United States. The goal of securing a steady employment was to be achieved by a business policy towards market fluctuations which consciously does not follow cyclical peaks in demand in order not to increase employment so much that they would have to be reduced again with a decline in demand ("Beschäftigungspolitik der mittleren Linie"). Diversification was regarded as another means to secure employment. Instead of further expanding capacity for passenger car production the company should grow into other business areas. In what was regarded as a first step Volkswagen bought the German office equipment and computer company Triumph Adler in 1979. As became clear soon those measures did not meet the initial expectations. The business policy of not exploiting the full market potentials was soon abandoned by company management in practice; the acquisition of Triumph Adler turned out to be a failure and that company was sold with huge losses in 1986.

In addition to this list of failures the life of the American plant of VW was only of short duration. After starting up production in 1978 it was regarded as a failure already by the mid of the 1980s. There was no attempt to "transplant" German concepts into the American context (Jürgens 1992, p. 76f). The system of labour deployment (job classifications, job demarcations), the seniority rules and the principle of hire and fire, and thus the conflict structures at VW's Westmoreland plant were exactly like those at the Big 3 (cf. Dombois 1982, p. 249). This is also true for the role of the skilled worker and skilled worker training, which is a specific weakness of the American system (cf. Dertouzos et al. 1989, p. 81). VW did not make any particular efforts of its own to cover the scarcity of skilled workers by setting up its own training system. Thus Dombois reports that in the situation of a particular skilled worker scarcity the Westmoreland management tried to attract skilled workers from Detroit and hired almost one hundred British skilled workers. Dombois summarized his observations at the Westmoreland plant 1986: "The workers in the US plants produce the same or at least similar products (the Golf/Rabbit) on the same equipment as their colleagues in Wolfsburg, but the conditions under which they work, are compensated and are employed differ considerably from those in German plants. Also the manner in which plant conflicts and work and employment conditions are settled is different in German and American plants." (Dombois 1982 p. 249)

The Westmoreland site closed in 1988. The product proved to be too expensive in comparison with the Japanese competition. The American buyers tended to see the "Made in America" label as drawback. The plant did not take part in the process of the establishment of "new industrial relations" in the USA (see Katz 1985) with the abolition of seniority based practices for worker deployment, increased flexibility and participation in the framework of team-oriented work reforms. There were no attempts at using new concepts to achieve an increased efficiency and

quality in production. We can speculate that management instead considered large investments in new technology for necessary. At the end of the 1980s machinery and equipment of the Westmoreland plant were shipped to China, where it serves as the hardware of VW's second plant at Changchung.

In Germany at the end of the 1970s, the introduction of new technology was regarded as the competitive edge in the "car wars" which could be expected for the 1980s. The perception prevailed that the necessary increase in flexibility and productivity could be achieved primarily by fully utilizing the potentials offered by the "microprocessor revolution".

The modernization of the production process was discussed at VW more than at most other German companies, primarily in terms of technology and automation. In contrast, human aspects of work organization and concepts like group work were rather seen as imposed on the company from outside - for the most part set off by the governmental program for humanizing working life.¹ The efforts and major concern of the works council, obviously, was to gain control over the factors which determine staffing requirements in order to assure an effective employment policy. The procedure for determining time standards, and thus performance regulation played a key role in this. With the wage differentiation contract of 1979 the works council achieved the position that time standards required its approval. Each time standard henceforth is a "minor plant agreement". A wage principle ("AK-Lohn") for work in highly mechanized areas was agreed to in subsequent years which stated that the manning levels in these areas have to be negotiated in a joint commission of the works council and management.

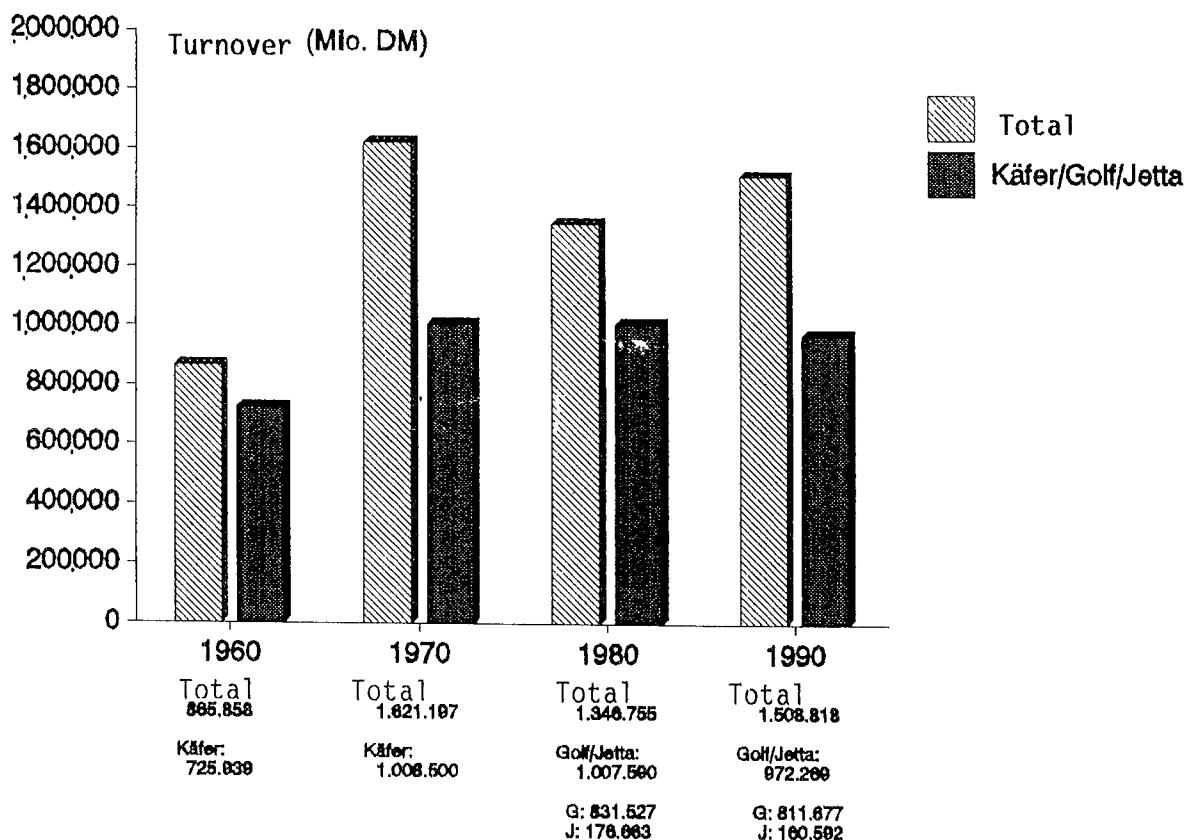
The thrust on employment security in the policy of the works council has to be seen against the background of a widespread discussion on the destruction of jobs through the new microprocessor technology ("microprocessors as job-killer number 1") which was widely expected at the end of the 1970s in Germany. Corresponding to ambitious technology plans enormous job losses were feared. The union demands for shortening of the weekly working time, for control of performance standards, and for additional training/ retraining programs ("Qualifikationsoffensive") were reactions towards this. The policy of securing employment levels was pursued most effectively at Volkswagen. A part of this, for instance, was the agreement on an extended break time (64 minutes per shift), which was rejected in most other collective bargaining regions. Added to this was also the right to an educational leave, which was based on a statutory regulation at the state level in Lower Saxony, as well as VW's own special leave arrangements (cf. Brumlop/Jürgens 1986 for further details). A part of this was also to make sure that overtime should be compensated by free time granted and not monetarily. The result of this policy was a successful employment security system, but also a high level of labour costs. Since then the level of labour costs has become a continual issue in the debate about VW and it became regarded as the company's "achilles heel".

We can thus conclude the account on the formative years in VW's history: A one-product monoculture (this remained a characteristic feature also in the 1980s as can be seen from figure 1) a system of industrial relations which is based on a high degree of consensus and

¹ A publicly supported humanization project dealing with group work in the assembly area was carried out by Volkswagen at its Salzgitter motor plant between 1975 and 1977. Extensive training measures were carried out in this framework, e.g. for the complete assembly of a motor. Group assembly did prove to be a flexible alternative for assembly sections with variable work contents as well as for smaller and mid-sized series, the narrow economic evaluation caused it to appear as uneconomical and the experiment was broken off. There was also no resistance from the works council. "Discussions within the union about the role and function of the group speaker were set off during the project. They were seen as competition to the system of collective interest representation" (Muster 1990, pg. 110).

codetermination, and a strong technology orientation - these are the characteristics the company acquired primarily in the postwar phase which remained dominant in the 1980s.

Fig.1: Share of Käfer resp. Golf/Jetta of total production



3. THE CONTOURS OF THE "GERMAN MODEL"

It is conspicuous that in the 1980s precisely the countries with the highest wage costs and with strong unions and worker interest representations, Germany and Sweden, fared better, also economically, than countries like the USA and the UK which had tried to regain a low cost position for competitiveness. This observation laid the ground for the conception of a "German model" based on a "strategy of diversified quality production" which turns the above-mentioned conditions into a competitive advantage. Diversified quality production flexibly responds to customer wishes and, at the same time, makes quality a central competitive parameter. Flexible production technology, a high qualification level, and an "intelligent" work organization are among the prerequisites for such a strategy (cf. Streeck 1986; Sorge/Streeck 1987).² Streeck sees the establishment of diversified quality production as proof for the "high economic and employment policy productivity of the German system of codetermination, 'humanization of work', centralized contract negotiations" (Streeck 1986, pg. 120).

² "Employment security through strong unions and effective dismissal protection regulations makes it more difficult for the companies to adjust their work forces via the external labor market (firing, new hiring) and commits them to the path of internal flexibility through transfers and training; the human capital which is developed for this can be used systematically for a strategy of diversified quality production. Beyond this, employment security and low downward wage flexibility block the way to rationalization adjustments following the pattern of traditional mass production and force the company managements to 'make the best of a 'bright' and expensive work force.

In terms of efficiency and costs the diversified quality production clearly was inferior to the conventional mass production system and - as Womack, Jones and Roos clearly pointed out later on the basis of the IMVP research in the second half of the 1980s (Womack, Jones, Roos 1990) the Japan oriented "lean production system" offered the possibility of combining high efficiencies and low costs with high quality and market related flexibility. But as long as customers were willing to pay the price for the product upgrading the strategy seemed of equal benefit to all sides - the customers, the company, the union and the work force. With changing conditions on the US market, the upcoming of Japan oriented concepts, a thinking in terms of dividing markets into a low price - high competition segment (to be left over to the Japanese), and a high quality - low competition segment (seen as the realm of the German companies) turned out to be illusionary.

At Volkswagen the introduction of "new technology" and process automation were regarded as the natural answer to the question of productivity improvements and the cost savings and this answer was widely shared in Germany during this time (cf. Jürgens, Malsch, Dohse 1993). Highlight of this technology orientation was the automation of assembly at Volkswagen's plant number 54 for trim and final assembly operations at VW's huge production site in Wolfsburg. Complementary automation projects in other VW (and AUDI) plants aimed specifically at such jobs which were left manual in *plant 54*. It could be expected therefore that experience with automation would be combined, eventually, to allow even larger automation steps in the future. *Plant 54* was put into operation in 1983, the degree of automation achieved was 25% with a potential to be raised up to 33%. But this potential was never fully utilized. As was the case with other ambitious high-tech projects, the expected rationalization effect did not come about. The process reliability of the assembly operations was, on the contrary, lastingly disturbed; the formation of buffers, bypass solutions, improvised emergency strategies, "hoarding" personnel in case of disruptions, etc. more than compensated for the savings of direct production labor. Despite all buffers, the processes did not become "robust". Savings were thus not achieved and, at the same time, the fixed costs base was increased.

Within the consensus structures, as they had firmed up again in the 1970s, the technologization strategy could only be realized in cooperation with the works council. In regard to the introduction of new technologies, the works council was, via several interim steps (the formation of planning and system committees in 1980 with far-reaching information and consultation rights on up to the agreement about codetermination in the introduction of new technologies in 1987) able to expand its codetermination rights. As a result, the works council has to be involved in the early stages of investment programmes for new plants and facilities now, at a stage when alternative solutions are still open.³ Through the use of "support staff", who are paid on the company roll, the works councils were given personnel resources so that they could take advantage of their rights to a certain degree in detail questions (Brumpplo/Jürgens 1986). In its policy of work design the works council seemed to share managements fixation on the technology strategy. The concentration of efforts at structuring work organization in "high tech" areas is obvious. Thus the works council played a major role in shaping the job description and image of the new type of *Anlagenführer*, a skilled worker

³ The first test cases for applying these rights were the string of new paint shops which were built at Volkswagen's production sites in Germany in the early 90s. The local works councils made the experience here that they had to be on the alert on a very early stage already in order to be able to exert real influence on the principles of process layout and work organization. Early works council involvement requires also involving other functional areas of the companies early in the process, much in vein of the Simultaneous Engineering approach.

who is in charge to run complex production equipment.⁴ In regard to production areas where manual labour remained dominant works council did not develop specific concepts of work organization and labour deployment.

A further central policy area for the 1980s was the expansion and realignment of the system for initial vocational training. The impulses for this came from the labor market development and the development of "new technologies". In order to reduce the problem of youth unemployment VW, like many other German companies, expanded its apprenticeship training far beyond the needs of its skilled worker departments like maintenance. In addition, VW was a forerunner in adjusting its system for initial training, the job categories, and the training curriculum to changed requirements. The opportunities for internal training were also increased in order to also allow non-skilled workers access to new job descriptions like that of the *Anlagenführer*. This corresponded to the demands of the union "training offensive".

The expansion of initial training led to the fact that young skilled workers increasingly had to make do with an employment "below their worth" in production, in order to later apply for jobs in skilled worker departments (maintenance etc.) which open up. The prospects of this are minimal in many cases, so that the pressure to introduce work structures in production which are "suitable for skilled workers" has increased in the course of the 1980s. As the vocational training system is focussed on the question of coping with high technology, this meant confirming the expectations of a further automation of production processes. With the perspective of future automation, operative management was attempting to hoard qualifications.

It can be seen now that the "logic" of the industry model which had emerged in the 1980s was technology-oriented and the perspective of further automation "structured" the expectations and strategies of the actors in the industry for most of the decade. The limits and disadvantages of this technology-orientation had become obvious by the mid 1980s though. The learning costs turned out to be very high and the high tech production systems despite all their "flexible technology" as too rigid for volume fluctuation and model change requirements. Too much of management's attention and skilled manpower was bound by "muda" resulting from problems with sophisticated machinery and systems. Since the second half of the 1980s, consequently, the process planners aimed at lower degrees of automation and dropped ambitious technology projects for new plants and forthcoming changeovers in established plants. This is particularly true for the assembly areas. But the old thinking is still strong. In the meantime, it has turned out that skilled workers who are working at conventional manual jobs can not only not bring their qualification potentials to bear, but also vent their frustrations in passive protest forms like increased absenteeism. In addition, small steps toward new forms of work are not capable of motivating them to the extent which is possible in the case of semi-skilled workers (Springer 1993).

The critical view we have taken on the industrial model followed by Volkswagen during the 1980s should not disregard the success of Volkswagen in the marketplace. Due to its strong sales especially on the European markets, VW had the strength and resources for a "new departure" which was envisioned by its top management by the end of the 1980s and with which we will be dealing in the following chapter.

⁴ In more recent publications of the Sozialforschungsinstitut Göttingen this job category is called "Systemregulierer" (system regulator). According to data of 1992 the share of system regulators of production workers in German car companies is 8% but 25% in stamping operations, 27% in machining operations, 6% in the body shops and 1% in final assembly areas only (Schumann et al. 1993, p. 17).

4. THE YEARS OF THE "NEW DEPARTURE" AND THE "RUDE AWAKENING"

1989 was the year when the "new departure" was proclaimed by VW's top management. A huge investment programme should brace Volkswagen for the socio-political changes foreseen for the 1990s. It should consolidate the acquisition of Seat which had become a new Volkswagen "brand" in 1986, and its presence in Latin America and China; and it should fully exploit the opportunities which were opening up in Eastern Europe. But the new departure should also mean taking regard of environmental concerns; green cars, city cars should be added to the product spectrum. Car production should be seen in a greater perspective of recycling resources and a need for a social redesign of traffic systems as a whole.

The two sides of this new departure represented by the names of Carl Hahn and Daniel Goeudevert seemed to offer a progressive and dynamic perspective for the future. The grand vision seemed to cover up the problems resulting from the strategy of the 1980s and the industrial model which it pursued. Warning voices could be heard, not the least from leading works council representatives and behind the scenes a fierce struggle about VW's future direction began.

By the end of the 1980s the corporate structures and production system of Volkswagen went through a far reaching change process. Four lines of developments are of particular importance in this respect:

- With the acquisition of Seat in 1986 and Skoda in 1990 two new groups came under the VW concern umbrella - besides the VW AG and Audi which was taken over in 1969. The new acquisitions required high investments for new product lines and modernizing production structures. This came in addition to establishing a new company branch in Eastern Germany, "VW Sachsen", which should produce VW AG's products as an independent company outside VW AG's company culture and industrial relations system.

In 1990 a quasi divisional structure of the corporation was set up with the four brand names and an overseas division (see figure 2).

The four groups under the corporate umbrella still retain their own product development organization with few common parts for similar models and little coordination for synergies between the product development organizations. The new policy after the company-turnaround this year sees a focus for its reorganization measures here.

- In the course of the 1980s VW entered into quite a few cooperative projects with other manufacturers. The joint venture with Nissan which produced the Passat in its Zama plant in Japan for some years in the 1980s; since 1989 VW's van plant in Hannover produces a Toyota product in a small series. 1987 Auto Latina was established as a joint venture between Ford and Volkswagen in Brazil/Argentina and currently a plant is being built in Portugal where Ford and Volkswagen jointly will produce a multi-purpose van from 1994; a joint venture between Seat and Suzuki for a small car to be produced in Spain from 1995 was cancelled in 1993.

At a closer look it would be exaggerated to call these projects "strategic alliances". They seem to be based mainly on reasons of problem sharing, filling niches and have not been utilized much for knowledge transfer. The aspect of learning from "better practice" companies should not be underestimated though. Comparisons with the Tahara plant

where Toyota assembles the same product as in VW's plant in Hannover, have considerably increased the attention within VW paid to bench marking with Japan. The organization of the production start by Toyota engineers was, according to the VW management, very instructive for VW. This experience is increasingly also acquired through recruiting people with experience in "change management" at other companies into the top management of Volkswagen: the appointment of the GM Vice President Lopez to the company board of directors is only one, although certainly the most spectacular, example.

Fig.2: VW's Corporate Organization (1992)

<p>1. Marke Volkswagen</p> <p>Volkswagen AG</p> <p>VW Sachsen</p> <p>VAV GmbH, Chemnitz</p> <p>VW Bruxelles</p> <p>V.A.G. France</p> <p>Autogerma, Italien</p> <p>VW Bratislava</p> <p>u .a</p>	<p>4. Marke SKODA</p> <p>Skoda</p> <p>5. Division Overseas</p> <p>VW of America</p> <p>VW Canada</p> <p>VW de Mexico</p> <p>Autolatina (51 %) Brasilien und Argentinien</p> <p>VW of South Africa</p> <p>VW - AUDI - NIPPON</p> <p>SVW China (50 %)</p> <p>FAW-VW China (40 %)</p> <p>Europcar Internat. (50 %)</p>
<p>2. Marke AUDI</p> <p>Audi AG</p>	
<p>3. Marke SEAT</p> <p>SEAT Automobilgeschäft TK</p>	

- An increase of capacity and a generation of new plants for the 1990s was put on stream. Figure 3 shows the current sites structure of VW's assembly plants and their production output for 1990 and the projected expansion according to plans from 1991; in the meantime these plans were scaled down though. With respect to the newly created international production structure the following can be stated:
- Despite the possibility of surplus capacity, VW was planning additional capacity which exceeded the production volume of 1990 by almost 50 % worldwide. A market share of almost 20 % was projected for Europe (1990 around 20 %). Volkswagen was thereby contributing to the heating up of competition in the 90s.
- The competition becomes tougher for the core plant Wolfsburg: the production of the A model (Golf) was the privilege of the core plant in Wolfsburg, in the future it can be produced at six sites: in Wolfsburg and Mosel (the new site in the former GDR), in Brussels (Belgium), in Puebla (Mexico), im Pamplona (Spain) and in Changchung (China).

Fig.3: Production Sites of Car Assembly and Planned Additional Capacity of the VW Group 1990 - 1995 (in Thousand Vehicles)

	Production 1990	Additional Capacity 1995	New Plants
VW AG/FRG (Wolfsburg, Emden, Hannover)	1.644		
VW Sachsen/FRG (Mosel I)	2	250	Mosel II
Audi AG/FRG (Ingolstadt, Neckarsulm)	430		
VW/Belgien (Brussels)	206		
SEAT/Spain (Barcelona, Prat, Pamplona)	533	400	Murtosell
TAS/Jugoslavia (Sarajewo)	37		
SKODA/CSFR		400	Mlada Boleslav
BAZ/CSFR		100	Bratislava
MPV/Portugal		80	Setubal
VW/Mexico	214	150	
Autolatina/Brasilia	265		
Autolatina/Argentina	8		
VW/South Africa	60		
VW/China (Shanghai)	19	300	Changchung
Total	3.418	1.680	

Sources: Annual Company Reports 1990 / Expert Interviews.

- With the new sites, the VOLKSWAGEN company is growing on the periphery of Europe, in countries with low wages (the wages at SKODA are presently around one tenth of those at the VW AG) and weak union structures. The same pattern is also discernable in its expansion strategies outside Europe, where growth is on the fringe or outside the areas of the other two triad powers.

With the increasing number of plants producing the same product and competing for volume and new models the signs of intensified competition between the plants are already conspicuous. Whereas company management welcomes the perspective of using benchmarking practices local management and works council feel the increased pressure. But once again the foundation of jointness and mutual trust between top management and the central

works council was confirmed when the company formally accepted the institution of a Volkswagen Euro-works council in 1990 as a body it has to inform about policies which affect the relationship between the European production sites. Volkswagen was one of the first companies to accept this institution which is regarded as one of the central elements of putting a "social dimension" to the economic integration of Europe.

- Especially in regard to the new plants at the end of the 1980s, management saw the opportunity to try out new concepts and taking the model of Japanese best practice plants. The Martorell and Mosel plants in particular were conceived after the Japanese models.

Thus, Volkswagen VOLKSWAGEN hired a former manager of NISSAN's UK plant in Sunderland, C. Griffith, as manager of the Martorell plant in Spain. Teamwork and flexibility between direct and indirect tasks within teams, quality responsibility by teams, Kaizen activities, visual management, just-in-time processes and a low degree of vertical integration shall be introduced at Martorell.⁵ Almost the same measures are planned for the Mosel plant (Jürgens et al. 1991) which is already called by its employees "NUMMI in Sachsen". The Mosel plant received a clear instruction from VW's managing board to implement "Lean Production" in the following sense: to realize a low degree of vertical integration; to achieve a clearly structured production process with flow-oriented and synchronized operations; to concentrate on real net output with an absolute orientation to quality and the customer (each station is obligated to deliver quality to the next); to eliminate activities which do not serve to add value or to relegate these to the service area; to question everything; and to pursue KVP (continual improvement process) ("Automobilproduktion", March 1993, pg. 32).

New production concepts "after Japan" were also conceived for VW's core organization, of course. A thorough just-in-time-oriented restructuring of the Salzgitter engine plant has been going on since 1991; Wolfsburg's gigantic manufacturing plant has begun a restructuring program with decentralizing management, team work and continuous improvement activities; here, a 60% increase in productivity shall be attained over the next five years ("Automobilproduktion", special edition VW Wolfsburg, December 1991, pg. 36).

The "rude awakening" (borrowing from Maryann Keller's description of the rise, fall and struggle for recovery of General Motors; Keller 1989 - and some parallels can be drawn to VW, indeed) came only a few years after the new departure had been proclaimed. This brings us back to the introduction of this paper. VW made losses at a time when sales and production volumes reached record values. Figure 4 shows that in the ten year period 1983-1992 turnover increased by 113% and production volume by 65% whereas profits fell by 110%!

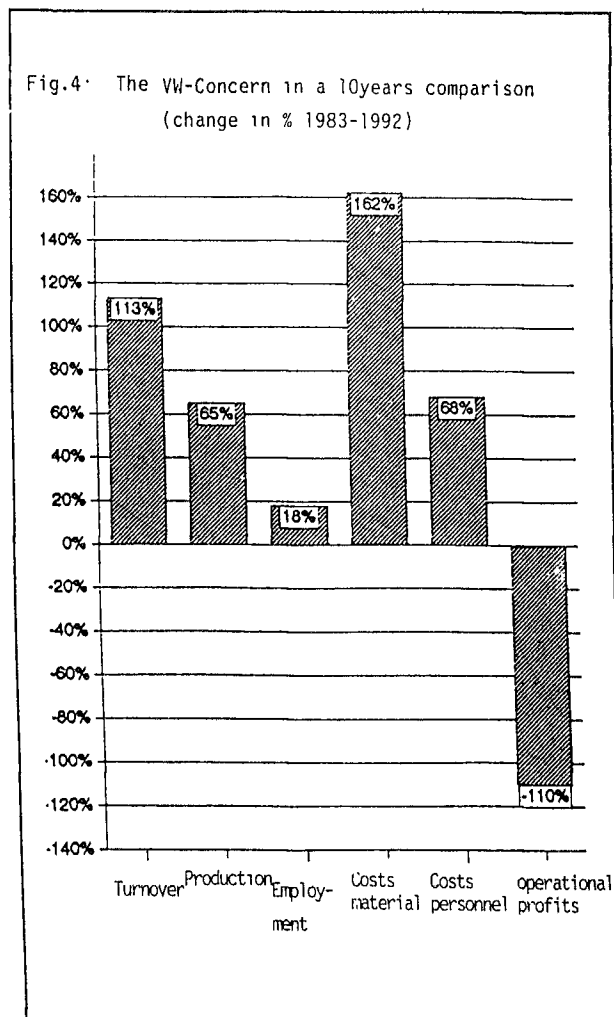
It became obvious that Volkswagen had neglected economic fundamentals: costs, the break even point etc., at a time when other companies in Europe had focussed their strategies on lowering their break even points to levels of around 60%. With falling demand and rising overcapacities Volkswagen was in danger to lose its fortunes soon, if it would not shift its priorities. This shift came with the appointment of a new chief executive and a major personnel reshuffling. The names Piëch and Lopez stand for this shift. The new priority is cost cutting. The outline of the new direction taken after the turnaround of March 1993 are:

- a reduction of personnel by around 15% until 1995;

⁵ At MARTORELL it was even suggested recently to introduce an individualized payment system on the basis of personnel assessment by the supervisors (cf. European Industrial Relations Review, July 1991, p. 9). Such a payment system has also been installed at NISSAN Sunderland in Britain. It has not been introduced in the American "transplants".

- cuts in supplier prices;
- the consolidation of product development activities within the corporation following the model of Ford's "centers of excellence"
- expert based improvement activities using Lopez' proven techniques to mobilize rationalization potentials in the given organization.

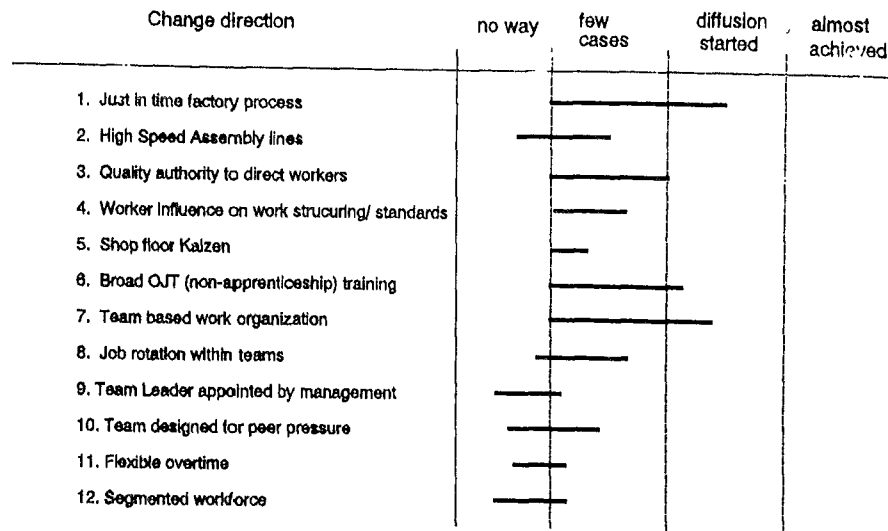
The turnaround at Volkswagen came not as a surprise. Referring to our account of the industrial relations setting at Volkswagen it has to be noted, that it was the central works council, the head of the IG Metall and the head of the Social Democratic/ Green government of Lower Saxony who had major influence on the decision to choose Piëch as Hahn's successor and not Goeudevert; also the decision to hire Lopez into the corporate executive board was in full agreement with these persons. Thus, the consensus foundations in VW's industrial relations system seem again to have been confirmed.



5. FINAL REMARKS: IS VW GOING "AFTER JAPAN"?

Fig.5 shows the changes which can be seen in VW's core plants (i.e. the VW AG) in regard to this question. The measures given are based on the author's own "guesstimates" of the current status. The dimensions encompass the essential characteristics of the Japanese production system on factory level the ideal type being the Toyota production system ("Toyotism") (Jürgens 1992). Time and space do not allow to further elaborate on these dimensions. The ranges given in this figure should be regarded as very tentative and preliminary.

Fig. 5: VW's Factory Practice Changing "After Japan"? State of development in June 1993



Source: expert informed subjective assessment of the author

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As can be seen from figure 5 an array of measures "after Japan" can be observed and a few have already started to diffuse into the core structures of the organization. These are in particular the implementation of a just-in-time oriented factory organization, the introduction of team work (although not in all cases and in every aspect modelled "after Japan"), broad on the job training activities. To a minor degree Kaizen activities and worker influence on work structuring can be observed. Some of the changes "after Japan" are obviously controversial and examples of moving in the opposite direction can be observed here, too. This holds true for the reinstallation of high speed assembly lines, and for using peer pressure within teams in order to improve for instance the attendance record of employees. Some of the vital dimensions of Toyotism are outrightly rejected and there would be no way to go in this direction under the current balance of power and consensus structure at the company. Thus we can observe a tendency of implementing central dimensions of a Japanese type of production system but only in a selective manner and not aiming at transferring its "logic" as a whole. And thus a hybrid form can be expected to result from this tendency.

The process of change which was set off at the end of the 1980s is still in its beginning phase. Structures have been modified, but not changed in their core. Principles of group work have been realized in many areas, but have hardly changed structures of thinking and behavior. The projects for changes have started slowly and are conceived for longer periods of time. The crisis forces the short-term expectation of success and pushes back projects of investing in motivation and qualification for new forms of work. At the present stage it is hardly possible to assess whether the crisis is a threat or whether it increases the chances for new forms of work.

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