

Depaepe, Marc

The Development of Classes in the Belgian Primary School in the Nineteenth Century

Rozprawy z Dziejów Oświaty 25, 167-178

1983

Artykuł umieszczony jest w kolekcji cyfrowej Bazhum, gromadzącej zawartość polskich czasopism humanistycznych i społecznych tworzonej przez Muzeum Historii Polski w ramach prac podejmowanych na rzecz zapewnienia otwartego, powszechnego i trwałego dostępu do polskiego dorobku naukowego i kulturalnego.

Artykuł został zdigitalizowany i opracowany do udostępnienia w internecie ze środków specjalnych MNiSW dzięki Wydziałowi Historycznemu Uniwersytetu Warszawskiego.

Tekst jest udostępniony do wykorzystania w ramach dozwolonego użytku.



MARC DEPAEPE

THE DEVELOPMENT OF CLASSES IN THE BELGIAN PRIMARY SCHOOL IN THE NINETEENTH CENTURY

THE IMPORTANCE OF HISTORICAL RESEARCH IN THE STUDY OF THE PROBLEM OF EDUCATIONAL INNOVATION

Increasing attention has been given in Western pedagogy since the nineteen sixties to the problem of innovation¹. The growth of theoretical research into the nature of pedagogical renewal clearly coincides with the increasing frustration being felt by teachers. Education has manifest difficulties in keeping up with the rapidly evolving social context in which pedagogical thought and activity take place². In spite of the continual process of social change, certain elements of education have remained relatively constant over the years, causing the current situation to be perceived as being disturbing and dysfunctional in many respects. This unsatisfactory situation has formed the immediate point of departure for numerous educational innovations. Convinced that a theoretical understanding of the innovation process can facilitate practical realization of pedagogical reform, academicians have set out to study the problem of innovation, but a great deal still remains to be done in the area of concrete accomplishment.

It seems to me appropriate to include a historical dimension in the exploration of this subject with a view both to theory formation and to more effective implementation. An analysis of the forces that promoted or hindered reform in specific historical cases can provide a bet-

¹ Cf. R. Vandenberghe, *Problematiek van innovatie in het onderwijs en geplande veranderingen*, Leuven, 1976, pp. 1—9. The timeliness of the study of innovation in education is illustrated by, among other things, the thematic issue of „Pedagogisch Tijdschrift”, 1980 (5), no. 4, entitled *Innovatie in het onderwijs*.

² Analogous to Ogburn's concept of „social” or „cultural lag”, some even speak of an „educational lag”, by which they mean the gap that occurs between the questions of society and the answers provided by education. Cf. R. Vandenberghe, *op. cit.*, pp. 7—8, and S. Groenman, *Sociaal gedrag en omgeving*, Assen, 1971, pp. 77—78.

ter insight into the formal structure of the innovation process as such, and the knowledge of the history of the present situation can contribute to the implementation of specific innovations. As in medicine, the diagnosis of a defect in the educational system, which would establish the desirability of reform, must rest partially on an awareness of the genesis of that flaw³. Investigation of the historical background of a situation can enable a prognosis to be made of the chances of success of a reform effort and indicate the possible sources of resistance. It can also show how and where specific efforts have run around and why specific reforms became necessary in the first place.

STARTING-POINT OF THE STUDY: CRITIQUE OF THE PRESENT
STRUCTURING OF PRIMARY SCHOOLS INTO AGE GROUP CLASSES

I shall try to illustrate these considerations by means of the results of an initial study I have conducted⁴. In many Western countries, Belgium among them, the generally accepted form of internal organization of the primary school—division of the pupils into separate age-based classes—is seen as problematical by educators. Indeed, empirical studies have shown that the premises upon which this system rests are untenable⁵. It is difficult to see how the uniformity and simultaneity of teaching activities that this system presupposes can be reconciled with the heterogeneity among children that research has revealed. In modern education, therefore, there is a movement to make educational structures more flexible to allow for broad differentiation and individualization of teaching activities. And like almost all the reform movements of the last century⁶, this recent and empirically justified critique has not been powerful enough to alter fundamentally the organization of education on the basis of classes⁷. The predominant model for the organization of the primary school remains, certainly in Belgium, the age group system. The question of how this model, which apparently

³ S.J.C. Freudenthal-Lutter, *Algehele doorlichting. Anderhalve eeuw denken over de klassikale school*, Purmerend, 1964, p. 5.

⁴ M. Depaepe, *De interne organisatie van het Belgische lager onderwijs in de 19de eeuw* (non-published licens thesis), Leuven, Faculty of Psychology and Pedagogical Sciences, Katholieke Universiteit Leuven, 1977.

⁵ See, for example, K. Ingenkamp, *Zur Problematik der Jahrgangsklasse. Eine empirische Untersuchung*, Basel, 1969, and K. Doornbos, *Opstaan tegen het zittenblijven*, The Hague, 1969.

⁶ Cf. the pedagogical systems of Helen Parkhurst, Charleton W. Washburne, Peter Petersen, et. al.—Q.L.T. v.d. Meer and H. H. Bergman (eds.), *Onderwijskundigen van de twintigste eeuw*, Amsterdam—Groningen, 1976.

⁷ Today, there is even growing skepticism about differentiation practices: W. Nijhof, *Differentiëren of niet?*, „Pedagogisch Tijdschrift”, 1980 (5), pp. 6—18.

has been a target of continual criticism from its inception, has been able to survive forms an additional motive for the study of the past in this case.

DEMARCATION OF THE SUBJECT IN SPACE AND TIME

From the above, it follows that this subject is broader than the study of a well-defined innovation that occurred in the past⁸. It is a matter of an historical sketch of an evolving structure with identifiable moments of reform. In general, the history of the internal organization of the Western primary school has gone through three phases⁹. From the embryonic village school, in which the teacher dealt with the pupils individually, grew the class organization. This occurred largely in the 19th century. Within this "classing" phase, two intermediate phases can be distinguished: there first came the transition to class methods of teaching, and then came the establishment of separate age group classes. This system of age group classes has continued to dominate in this century, although numerous attempts have been made to move on toward a third phase in educational organization: differentiation and individualization.

In the initial study I mentioned above, the concern was with the inception of the second phase. In the present survey, therefore, I shall

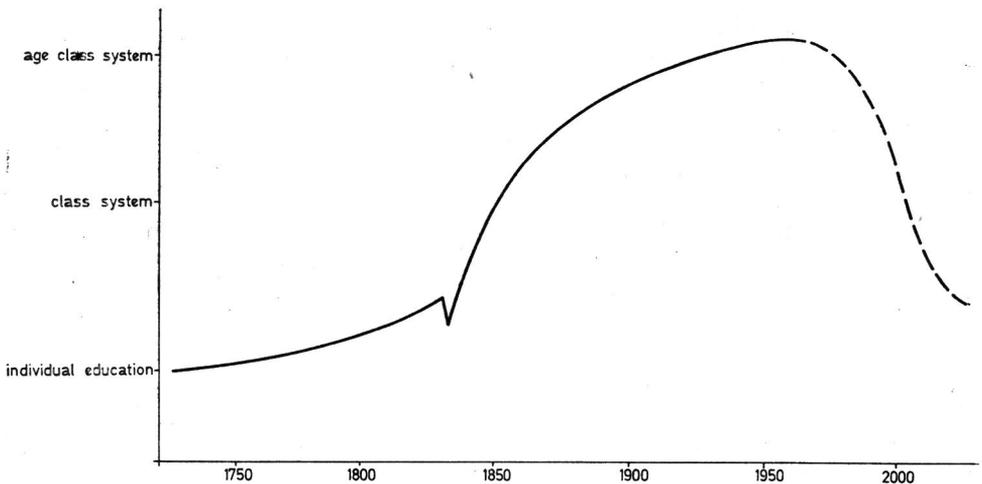


Figure 1: Hypothetical evolution of the internal organizational form of the Belgian primary school

⁸ In the title of the congress, "Innovations in historical context", at least two approaches can be distinguished. It can concern either the history of the introduction and implementation process, or the history leading up to a specific innovation. The latter approach is the major concern here.

⁹ Cf. Figure 1.

limit myself to the questions of how the Belgian primary school came to adopt the class system in the 19th century and what catalysts were involved in the process.

FROM INDIVIDUAL TEACHING TO THE CLASS

Initially, primary education had little or no structure. The schoolmaster would assign individual pupils tasks in reading and writing and then examine them individually on their progress.

This primitive method along with the deficient subject matter, the poor facilities, the pedagogical ignorance on the part of the teachers, and the haphazard attendance on the part of the pupils, was considered adequate until far into the eighteenth century¹⁰. Only at the end of that century did a pedagogical reform movement begin in the Northern Netherlands¹¹, which movement developed primarily on the German model¹² and under the influence of the Enlightenment. And within this movement to improve education, which arose largely in opposition to prevailing abuses, the demand for simultaneous education, i.e. class organized or concurrent, was in the forefront.

The Maatschappij Tot Nut van 't Algemeen (Society for Social Improvement), which was established in 1748, did a great deal of pioneering work in this regard. This society sought to encourage educational reform by means of competitions. In the responses¹³, the necessity of education in classes was stressed unequivocally. This approach, however, was not intended to hinder attention from being given to the individual child. Therefore, the ideal school was conceived as having a three-class organization of more or less homogeneous groups under the direction of one teacher. Within each group, which was called a class, the pupils could be further divided into sections. Such concepts, therefore, tended toward a flexible structure with generally homogeneous group of pupils organized into informal classes¹⁴.

The legal prescriptions that appeared in the Northern Netherlands around the turn of the century also tended in this direction and pro-

¹⁰ By way of exception, there were the almost independent efforts of the Brothers of the Christian Schools and their founder, Jean-Baptiste de la Salle. Cf. K. Zaehring, *Die Schulbrüder des heiligen Johannes Baptist de la Salle*, Freiburg, Switzerland, 1962.

¹¹ Belgium was annexed to the Northern Netherlands in 1815.

¹² Cf. M. de Vroede, *Van schoolmeester tot onderwijzer*, Leuven, 1970, pp. 109—143.

¹³ *Prijzverhandelingen over de gebreken in de burgerscholen. Uitgegeven door de Maatschappij: Tot Nut van't Algemeen*, Amsterdam, 1799².

¹⁴ S.J.C. Freudenthal-Lutter, *Naar de school van morgen*, Alphen a/d Rijn, 1968, pp. 43—44 and 48.

moted education in classes within a tripartite school structure¹⁵. But the legislator also took another step toward the present grouping system by recommending that an annual examination be the criterion for promotion from one class to another.

To support and implement these laws, a number of hand-books were published at this time that unequivocally propagated the official organizational principles¹⁶. The three-class school with its sub-sections, the simultaneous approach, the timetable, the annual promotion system, and the blackboard formed the elements of this highly praised system of internal organization¹⁷.

Many factors made the uniform class approach desirable. First, it was an extremely efficient way of providing the increasing number of pupils more subject matter¹⁸. In addition, it promoted the much desired virtues of order, discipline, and competition, and also gave the teacher the central role in the transfer of knowledge, which was conceived encyclopaedically. Such advantages, which may appear at first sight to be purely educational, reflected a more profound vision of man and the world. According to the prevailing philosophy of the Enlightenment, reason would overcome evil. Therefore, children would have to acquire the benefits of wisdom in a reasonable and orderly way¹⁹.

Nevertheless, the protagonists of the Batavian reform movement encountered stiff resistance to the implementation of their principles. The opposition rose from the unwillingness to change established custom, the existing prejudices, and the ignorance of the schoolmasters. Nor was much progress made during the Napoleonic period. Only under William I did the pioneering work begin in earnest, and the establishment of two state normal schools, one at Harlem and the other at Lier²⁰, proved

¹⁵ Cf. M. Depaepe, *De conceptie van de klassikale volksschool in de Nederlanden, begin 19de eeuw*, "Pedagogische Studiën", 1978 (55), pp. 400—401.

¹⁶ Illustrative is J. H. Floh, *Onderrichtingen, raadgevingen en wenken voor min of meer geofende schoolonderwijzers, die hunnen belangrijken post, volgens de nieuwste schoolverordeningen in dit koninkrijk, doelmatig wenschen waar te nemen, tot gemak van hun zelve, en ten meeste nutte der aan hun onderwijs toevertrouwde jeugd*, Groningen-Amsterdam, 1808.

¹⁷ The monitor system of Bell and Lancaster was rejected. Cf. H.W.C.A. Visser, *Verhandeling over de volstrekt noodzakelijke kundigheden, welke in de openbare en armenscholen, in het Koninkrijk der Nederlanden behooren medegedeeld te worden, en de beste leerwijze voor dezelve, benevens eene vergelijking daarvan met de Bell-Lancasterse schoolinrichting*, Leiden, 1820.

¹⁸ J. A. Valks, *Klassikaal en individueel volksonderwijs*, Amsterdam, 1925, pp. 83, 97—98, and 100—101.

¹⁹ H. C. De Wolf, *Volksonderwijs in Nederland van omstreeks 1775 tot omstreeks 1840. Ontstaan en invoering van klassikaal onderwijs*, „Bijdragen en Mededelingen betreffende de geschiedenis der Nederlanden”, 1977 (92), pp. 231—232; M. Depaepe, *op. cit.*, p. 406.

²⁰ M. De Vroede, *op. cit.*, pp. 151—220.

very fruitful. There, teachers were trained in the class method. On the eve of the Belgian revolution, some cities already had strongly "classed" educational institutions²¹, though hardly any progress had been made in others.

A BRIEF INTERMEZZO: THE FIRST DECADE AFTER BELGIAN INDEPENDENCE (1830)

For reasons that must be understood against the political background, opposition rose in the Southern Netherlands against the efforts of the Dutch authorities to improve education. In what is now Belgium, which was part of the Kingdom of the Netherlands between 1815 and 1830, the Dutchification of public life, including education, was a thorn in the side of the Francophile Catholic bourgeoisie. They thus drummed it into the minds of the common people that everything Dutch was alien and Protestant²². In order to eliminate the dirigistic educational policy of the Dutch, the concept of freedom of education was included in the Belgian constitution²³. In practice, this legally guaranteed freedom was generally interpreted negatively so that the primary school system, which had been so laboriously built up both quantitatively and qualitatively, was dismantled. In many places, there was a return to the old individual method, in spite of the fact that the class organization continued to be defended in the small amount of educational literature then available²⁴.

The above clearly illustrates how resistance can arise to the spread of a reform when the relationship is poor between the agents of the reform and the potential users—in this case, the teachers²⁵. Often, Belgian schoolmasters rejected the class system because they mistrusted the opinion leaders—the Dutch educational authorities—and not so much because they considered the method in itself to be poor.

FURTHER "CLASING" OF THE BELGIAN PRIMARY SCHOOL (1842—1879)

The aversion to the "Holland" method abated somewhat around 1840. According to the ministry of education, half of the primary

²¹ As, for example, in Brussels; cf. A. Sluys, *Geschiedenis van het onderwijs in de drie graden in België tijdens de Fransche overheersching en onder de regeering van Willem I*, Ghent, 1912, pp. 276 and 279.

²² Cf. C. C. De Keyser, *België, Taalproblemen en culturele autonomie in het onderwijs*, [in:] *Standaard Encyclopedie voor opvoeding en onderwijs*, Vol. 1, Antwerp—Hoorn, 1974, p. 172.

²³ Article 17. Cf. K. De Clerck, *Momenten uit de geschiedenis van het Belgisch onderwijs*, Vol. I, Antwerp, 1975, p. 6.

²⁴ M. Depaepe, *De theorie van de interne organisatie van de Belgische lagere school*, "Pedagogisch Tijdschrift", 1979 (4), pp. 338—341.

²⁵ Cf. Figure 2 (page 173).

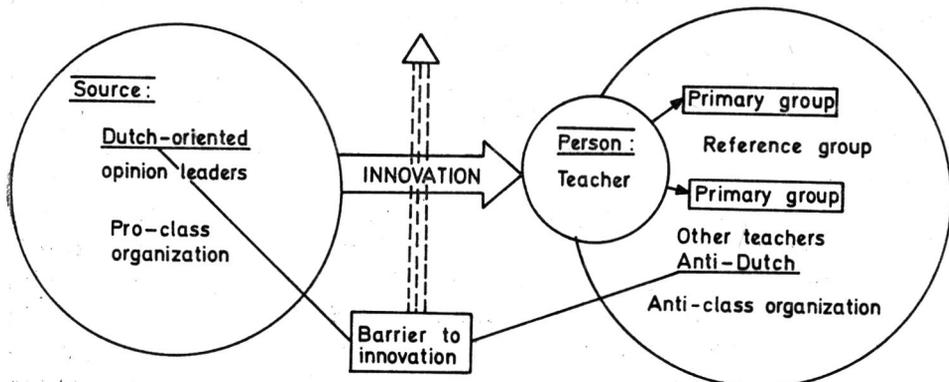


Figure 2: Explanatory model for the rejection of the class organization at the time of the Belgian revolution of. R.O. Carlson, *Adoption in educational innovation*, Eugene, Oregon, 1965, pp. 7 and 18, as cited in R. Vandenberghe, *op. cit.*, p. 26.

schools at that time had implemented the class system²⁶. The renewed attention to the pedagogical principles from before the Belgian revolution coincided with the introduction of legislation concerning primary education and with the rise of the Belgian educational press²⁷. Both the official documents and the literature reflect the growing conviction that the class system was the most rational, the most logical, and the best pedagogical way to organize a school. Individual education was forbidden and the choice was left between the class and the "mutual" method, the latter often being a veiled form of simultaneous teaching²⁸.

Some pedagogical authorities suggested changing the three classes of the Dutch model to two-year grade classes. Though this measure in itself offered some guarantees for structural flexibility and though the problem of individualization was occasionally raised²⁹, numerous elements of the rigid year class system were adopted: the sequencing of the course content in the school year, the operationalization of the term "class" in time units, the acceptance of calendar age as a valid criterion for division, the implementation of retention as a valid alternative for

²⁶ [J. B. Nothomb], *Etat de l'Instruction primaire en Belgique. Rapport décennal (1830—1840) présenté aux Chambres Législatives le 28 janvier 1842*, Brussels, 1842, pp. 84—85. These figures, however, are not reliable, cf. M. De Vroede, *op. cit.*, p. 396.

²⁷ M. De Vroede et al., *Bijdragen tot de geschiedenis van het pedagogisch leven in België in de 19de en 20ste eeuw*, Vol. 1: *De Periodieken 1817—1878*, Ghent—Leuven, 1973, pp. 3034.

²⁸ M. Depaepe, *De theorie*, pp. 341—351.

²⁹ Illustrative is J. W. Regt, *Generaliseeren of individualiseeren*, „De Toekomst”, 1871 (3rd series, 5th vol.), pp. 489—492.

poorer pupils, the ascription of a sanctioning value to examinations, and the emphasis on the simultaneous-explicative method of education.

A number of factors can be cited to account for this evolution. The three-class structure, which could be easily transformed into the six-class structure, continued to be recommended as an excellent means to achieve efficiency. With an intelligent division of the pupils (not too many sections) and of the working time (a proper class schedule), a considerable amount of time could be saved. This gain in time was considered to be a great advantage. Besides, there were reasons enough to stress the importance of order, continuity, and discipline in the battle against the chaos that sometimes reigned in the schools. Even a superficial survey of the educational press at that time reveals how much the leading educationalists worked for rational and orderly organization³⁰.

But even these practical circumstances are insufficient to account for the cult of order that dominated the pedagogical literature of the 1860's. Some articles point to a much more profound link between the concept of the school and the ideal human and world image³¹. The well-structured school system had to satisfy the social expectation of a eudaemonistic school, filled with well-behaved, pious, and virtuous youths. The rationalist world view, moreover, not only included eudaemonistic components, it also tended to bureaucracy and uniformity. Class structured education clearly offered a greater degree of administrative control, and the value of uniformity was realized in the uniform treatment of the subject matter and of the pupils as well as in the use of standard textbooks³². The orderly structuring of the pupils into classes also provided more ease and convenience for the teachers, whose labors were often for naught in the old, noisy, individually-oriented school. Moreover, it was also hoped that the well-ordered primary school would teach the pupils to make good use of their time in a deliberate and conscious manner³³.

The third factor that fostered the tightening of the school structure was, in my opinion, the fact that a rigid promotional system was seen to be very useful in arousing the much desired competitiveness among

³⁰ For example, see the work of the normal school teacher and inspector, Thomas Braun (1814—1906). Cf. T. Braun, *Description d'une bonne école populaire*, „L'Abeille”, 1861—1862 (7), pp. 65—66 and 115—116.

³¹ Cf. *Conseils sur la tenue d'une classe sous le rapport de l'éducation*, „Journal des instituteurs”, 1848 (6), p. 260; J. Wirth, *De l'ordre et de la propreté dans la salle de l'école*, „L'Abeille”, 1859—1860 (5), pp. 59—60; A. Bodart, *L'ordre dans ses rapports avec l'école primaire*, „L'Abeille”, 1877—1878 (23), p. 488.

³² T. Braun, *Quelques réflexions sur le mobilier des écoles et les livres classiques*, „L'Abeille”, 1868—1869 (14), pp. 197—201.

³³ Dubois d'Enghien, *Avantages d'une bonne distribution du travail dans une école primaire*, „Le Progrès”, 1877 (17), p. 526.

the pupils. Educationalists unanimously agreed that competition was a healthy element in education and, therefore, that it had to be built into the concrete organization of the school ³⁴.

Another cause that probably contributed to the policy of retention as a sanction for failure in examinations was a faulty notion of child psychology: laziness was seen to be the primary cause of intellectual slowness of some children ³⁵. This laziness had to be combatted at all costs. The best that could be done was to implement the simultaneous teaching method with a good work plan since then each pupil would have his task ³⁶.

We may conclude that not a great deal of attention was given to the problem of the internal organization of the school. Since the institutional principles were enshrined in the broader image of society, the recommended school structure was not questioned. The paucity of the articles and conferences ³⁷ directly dealing with these problems is illustrative, as well as the fact that one essentially preserved the organizational form that had been originally conceived by the Dutch.

However, the rigid organization, although developed as a pedagogical concept, was not implemented everywhere ³⁸. The evolution of the modern system was retarded because the material conditions did not allow strict division into age-group classes. Generally, only one or two classrooms were available in the villages, and the small number of teachers often ruled out separate age classes each with its own teacher. Furthermore, irregular school attendance and premature cessation of studies made the implementation of a continuous structure very difficult, if not impossible. Finally, the communes were not obliged to meet the rigid requirements when they established a school ³⁹.

THE FOUNDATION OF THE PRESENT SYSTEM (END OF THE 19TH CENTURY)

Whether or not there should be a centralized school policy was an important point of controversy in the political school struggle between

³⁴ P. Van Hauwaert, *Klassering der leerlingen*, „De Toekomst”, 1866 (2nd series, 5th vol.), pp. 194—197.

³⁵ F. Meire, *Hoe moet een onderwyzer te werk gaan met de leerlingen die niet gemakkelĳk leeren?*, „Le Progrès”, 1863 (3), pp. 73—74.

³⁶ *Divisions des élèves en classes ou sections*, „Journal des instituteurs”, 1843 (1), p. 90; Dubois d'Enghien, *op. cit.*, p. 526.

³⁷ Cf. A. Jeurissen, *De conferenties van 1842 tot 1878* (non-published license thesis), Leuven, Faculty of Psychology and Pedagogical Sciences, Katholieke Universiteit Leuven, 1973.

³⁸ Cf. M. Depaepe, *Kwantitatieve analyse van de Belgische lagere school (1830—1911)*, „Belgisch Tijdschrift voor nieuwste geschiedenis”, 1979 (10), pp. 21—81.

³⁹ Cf. M. Depaepe, *De interne vormgeving van de Belgische lagere school tussen 1830 en 1879*, „Pedagogisch Tijdschrift”, 1979 (4), pp. 454—466.

the Liberals and the Catholics around 1879. This controversy marks a watershed in the history of Belgian education⁴⁰.

In the implementation decisions concerning the centralistically conceived Liberal education law of 1879, the three grades, each consisting of two school years, and retention entered into official documents. With this, the Liberals applied the age-class structure as the model for the concrete organization of the school. And when the Catholics returned to power in 1884, the model programs were adopted without further ado. Thus, there was a consensus among the political leaders about the ideal school structure that surmounted ideological oppositions. No opposition appeared in the educational literature of the time. On the contrary, there was as much praise as previously of the well-organized

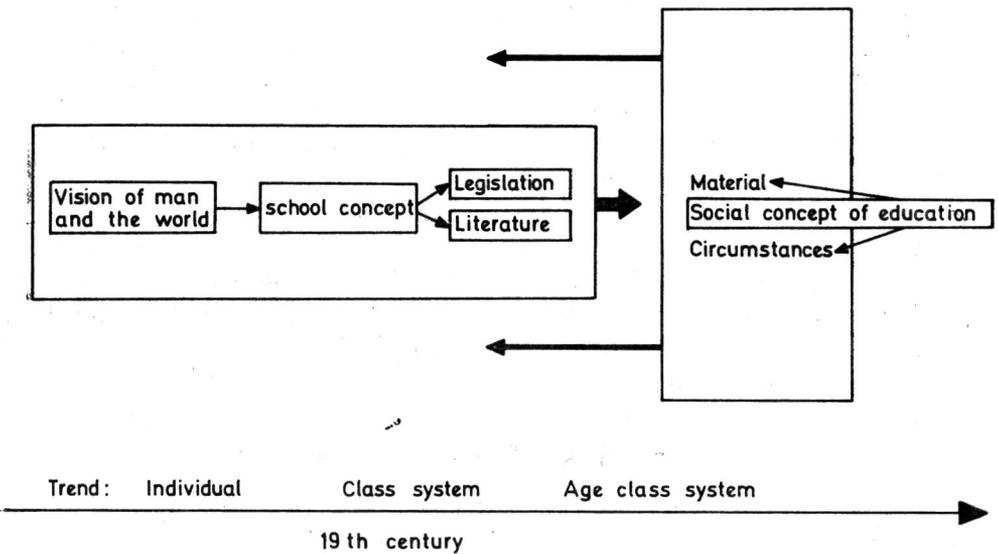


Figure 3: Schematic presentation of the factors that determined the 19th century evolution in the internal organization in the primary school

school, i.e., the school where the pupils were classed according to age, knowledge, and progress, and where one worked according to a scrupulously detailed timetable. The foundations of the age class system had been securely laid, therefore, in the last quarter of the nineteenth century—at least in theory. The most desirable school was one with six divisions, and the organizational principles of uniformity and simultaneity were largely accepted. Though the general implementation of the strict division into six separate age classes was impracticable for the time being because of the lack of resources, both of the main prin-

⁴⁰ Cf. J. Lory, *Libéralisme et instruction primaire. 1842—1879*, 2 vol., Leuven 1979.

ciples were partially realized. Timetables and course content suggestions coupled the subject matter with the teaching time, and time as the organizational criterion for subject matter and pupils won ever more acceptance. The pupils received their lessons not only at the same time but also in the same manner: groups of more or less the same age were offered the same subject matter in a standardized teaching situation. The didactic organization of the school thus matched the principle of uniformity. I have already shown above how both of these organizational principles found fruitful soil in the ideal image of the well-ordered school that was created in the educational press⁴¹.

TENTATIVE CONCLUSIONS

I should like to conclude with a number of tentative conclusions. From an historico-pedagogical study like that described above, it is clear that education and even didactics cannot be considered apart from social events. Account must be taken of these social factors in the construction of a theory of innovation in education. Educational reform will always imply some degree of social reform, and, inversely, social changes made educational changes necessary.

In the evolution discussed above, there is a noteworthy oscillation movement. Without oversimplifying, I think this progress could well be termed "dialectic": from the extremely negatively interpreted individual education, the class system developed. Today, in opposition to the onesidedness of the class system, there is a movement to replace it with a more differentiated and individualized structure. This development, too, is probably related to a more profound social evolution⁴².

An urgent practical conclusion emerges from this study. Is not the structuring of the primary school into separate age classes only meaningful in a specific historico-social constellation? Must not this approach be abandoned in the light of a new human and social vision? This question gains urgency from the arguments raised by other pedagogical sciences supporting a change to newer organizational forms⁴³. It is still questionable, of course, whether our present society is ready to accept the philosophy that would underly a reformed organization of education. This is probably also the reason why so little has changed in the internal organization of our primary schools.

⁴¹ M. Depaepe, *Wenselijkheid en werkelijkheid van de interne organisatie in de Belgische lagere school omstreeks het einde van de 19de eeuw*, "Pedagogisch Tijdschrift", 1980 (5), pp. 75—92. For an overview of the factors, both stimulating and hindering, that were operative in the introduction of the class system into the Belgian primary school, see Figure 3.

⁴² Cf. Figure 4.

⁴³ Cf. the development of this example within my concept of historical pedagogy in M. Depaepe, *De relevantie van het historisch-pedagogische onderzoek voor de pedagogische wetenschappen. Commentaar bij de discussie in het Nederlandse taalgebied*, „Pedagogische Studien”, 1979 (56), p. 515.

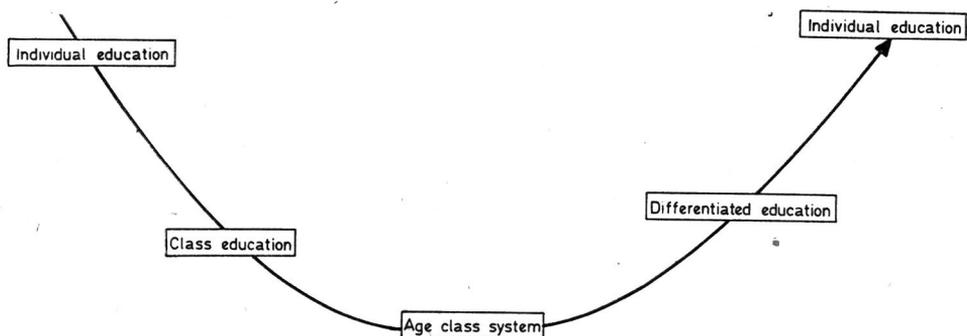


Figure 4: Tentative explanatory schema of the general evolution in internal organization

**CORRESPONDING
SOCIAL FORMS:**

Pre-industrial:
education not necessary,
a superfluous luxury

Industrial:

rise of mechanization,
rise of the „educational machine“:
rational/efficient/competitive/selective/accomplishment oriented

Post-industrial:

humanitarian, democratic, oriented to individual needs