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The genesis of vocational education in Switzerland from the perspective of justification theory: On the development of a dual vocational education model in the Cantons of Geneva and Lucerne²

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1. Introduction

The post-compulsory educational offers in Switzerland are characterised by a strong focus on professional qualifications. Even today, three out of four diplomas awarded at this level are vocational certificates (Cortesi/Imdorf 2013). Thereby, vocational education at companies and vocational schools is of great significance. In 2010, 87% of all vocational education learners in Switzerland completed their basic vocational training in the context of programmes happening simultaneously at the company and the vocational school. In the German-speaking part of Switzerland this share approached 90%, while in the French-speaking part the share was 76% (SBFI 2014, p. 12). Known for its alignment with the needs of the economy, this kind of educational organisation continues to guarantee its graduates a good labour market chance in Switzerland. Respectively, Switzerland is increasingly perceived as a showcase model for vocational education.

¹ In cooperation with Hans Jakob Ritter, who created a basic document for the research of the Canton of Lucerne, on which we fall back in this contribution.

² Article first published as “Duale versus vollzeitschulische Berufsausbildung in der Schweiz. Zwei Institutionalisierungsmuster der beruflichen Bildung aus rechtfertigungstheoretischer und kantonal vergleichender Perspektive” in Leemann et al. (2016).

However, a look back at the birth of the Swiss vocational education system shows that dual³ education in the late 19th century was not as self-evident as it is today. Today's educational organisation was preceded by a decades-long federalist institutionalisation process (Gonon 2008). The starting point of a publicly recognised vocational education was marked by the 1884 federal decision regarding commercial and industrial vocational education (*Bundesbeschluss betreffend die gewerbliche und industrielle Berufsbildung*) that allowed for the subsidising and vocationalisation of schools, supporting organisations such as the industrial museums, and gave a further boost from the federal side to the vocational educational efforts of associations. Thus, the federal government gained a degree of influence in vocational education that continued to expand in subsequent years (Späni 2008). What remained an open question until the beginning of the 20th century was to what extent vocational education was going to be characterised by full-time school measures or only by supplementary school offers (Gonon 2009). The idea that an apprenticeship with a master craftsman ("*Lehre beim Meister*"), i.e. a focus on company-based training, complemented by learning at supplementary or, respectively, vocational school, took hold only at the turn of the century, costs being one of the reasons. The approach was supported by surveys by the federal government, by trade associations and experts from the non-profit society and the school faculty (Gonon/Maurer 2012). In addition, full-time schools and public training workshops established themselves in various branches and regions – among other things for the education of the professional elites (Wettstein et al. 2014). The cantons played an important role by further developing vocationally oriented school institutions and vocational counselling as well as by implementing apprenticeship laws for the protection of apprentices (Bonoli 2012). Through these developments, the dual model of vocational education – based on education at two learning places at the company and at vocational school – gained a degree of

³ The term „dual vocational education“ came in use only at about 1970. Nevertheless we refer to it here to identify the practice of vocational education and training happening at two places, namely the company and the vocational school. Today, duality is used for many educational directions which consist of a strong company based component. It is also used in the context beyond the place of learning when more generally referring to the collaboration between actors from the state and the private sector. Moreover, the term remained in use especially for German-speaking countries, despite the fact that increasingly vocational education happens at more than two learning places – often three (Gonon 2009).

significance throughout Switzerland that was further solidified through the first vocational legislation of 1930⁴.

But how is it that, as indicated above, two so much different vocational education systems – the dual and the school-based model – could assert themselves in different parts of Switzerland? We answer this question by referring to two exemplary case studies, the Cantons of Geneva and Lucerne. Lucerne, a canton of the German, and Geneva, a canton of the French speaking part of Switzerland, historically and currently represent two contrasting cases concerning the organisation of post-compulsory education, which is composed of vocational training and general education (primary baccalaureate schools). Already at the turn of the 20th century significantly more young people completed a dual vocational training in the Canton of Lucerne than in the Canton of Geneva (see Chap. 3). Today, nine out of ten students in the Canton of Lucerne complete their basic vocational education by undergoing a company-based, i.e. dual apprenticeship, while in the Canton of Geneva - with a comparatively much lower overall rate of learners in vocational education and training (VET) compared to the rate of baccalaureate students - only every second vocational learner completes a *dual* vocational training (Cortesi/Imdorf 2013). While in Geneva both VET models, full-time school and dual education took root as alternatives in the transition to the 20th century, the dual model established a monopoly in Lucerne. We argue in this paper that these canton-specific features developed on the basis of different principles of justification, to which the actors involved had to refer by the design of VET.

Below we will first sketch the theory of justification (2), then we will explain the methodological design (3) of our study. Afterwards we will reconstruct the historical genesis of VET in the Cantons of Geneva (4) and Lucerne (5) on a

⁴ Since that time, the federal government has been responsible for the regulation and the co-financing of vocational education. The organisations of the labour market (professional associations/branch organisations, social partners and companies) define the content of education and the national qualification procedures, organise vocational education and develop it further. The cantons are responsible for implementation and supervision.

comparative basis. The results and prospects will be formulated in a final conclusion (6).

2. The justification of vocational education and its organisation

We refer to the concept of orders of worth and justification proposed by Boltanski and Thévenot (1991, 2006) and by Boltanski and Chiapello (2005) to theoretically grasp the model of vocational education deemed as being adequate in a specific historic context. This approach allows for the distinction of important principles of social ordering in the process of coordination and legitimation and, thereby, in the long-term social bond that develop between organisations – in our particular case between work and educational organisations. The involved actors align their decisions and actions with orders of justification allowing for an assessment of the *adequacy* of vocational education offers and processes in concrete historic and local contexts. In the context of the justification-theoretical framework, social actors are understood to be *critical* actors. They have the capacity to offer situational criticism, to assess the decisions and actions of others as well as to justify their own actions (Boltanski/Thévenot 1999).

Boltanski and Thévenot (2006) initially proposed six ideal-typical justification principles in order to grasp social coordination at big corporations: the inspired principle, the domestic principle, the industrial principle, the market principle, the civic principle and the principle of fame. Boltanski and Chiapello (2005) added the project-based principle of coordination in networks as a seventh order of justification, so as to grasp the flexible kinds of modern work organisations. Actors in work organisations refer to these seven orders of justification and coordination in order to allow for legitimacy and orienting their actions.

Thus, a kind of vocational education that follows the industrial principle of efficiency is oriented toward conveying practical skills. In contrast, market oriented vocational education cost effectively ‘produces’ graduates in occupations which are much demanded on the labour market. The domestic principle supports the education of junior staff with loyalty to the company and the sector. A civically oriented educational system, on the other hand, not only conveys employment relevant knowledge for a few students but fosters broad, socially relevant general knowledge under the consideration of equality of opportunity when it comes to allocating training positions. By way of their vocation, the coordination principle of inspiration links the employees to their profession (Leemann/Imdorf 2015).

Real-life work organisations – big vs. small firms, private vs. public companies – represent various *compromises* of such value and justification orders and coordination principles⁵. In order to analyse those orders of vocational education, we assign these concepts to educational organisations (training companies, vocational schools), which enables us to define potential policy principles in the realm of vocational education. *Table 1* provides an overview of the seven principles of justification and their equivalents with respect to coordination principles and policies in VET (following Boltanski/Thévenot 1999; Leemann/Birr 2015; Leemann/Imdorf 2015).

Table 1: Orders of justification and their assignment to the coordination principles and the quality of vocational education

Order of justification	Coordination principle of VET	Vocational education and imparted legitimate knowledge
Market-based	Competition, demand, price	Cost effective education of demanded skills
Industrial	Efficiency, expertise	Transfer of applied knowledge (know-how; <i>savoir faire</i>)

⁵ It can, for instance, be assumed that the domestic principle is more pronounced in the coordination of small firms as opposed to big corporations, while the industrial principle of coordination of work relations is more predominant with the latter compared to the former.

Domestic	Community	Education based on respect, trust and loyalty (<i>savoir être</i>)
Civic	Equality	Education open to everybody, transfer of general knowledge (knowledge; <i>savoir</i>)
Inspired	Vocation	Vocation for education that fosters passion and creativity
Fame-based	Public opinion	Visible education of good reputation
Project-based	Network	Flexibility, open education that fosters mobility

Referring to the outlined justification-theoretical framework, we ask how the two different vocational education systems – the dual and the school-based model – could assert themselves in the Cantons of Geneva and Lucerne at the transition from the 19th to the 20th century. Who were the interest groups and to which order of justification did they refer in order to argue for an adequate organisation of VET? Which related educational coordination principles and their respective educational policy principles did they mobilise? Which lines of conflict and which compromises ensued?

3. Research design and methodology

Methodologically we select two contrasting cases: Lucerne and Geneva. The Canton of Geneva was first when it came to regulating dual vocational education at the cantonal level in the early 1890s, and the Canton of Lucerne did so a decade later. Both cantons differ substantially with respect to their emphasis on school-based versus company-based vocational education. In 1887/88 in the Canton of Lucerne 60 % of the young people attended supplementary school – a predecessor to the later vocational school of the dual training model – after compulsory education. These were significantly more than in the Canton of Geneva (12 %). Here, twice as many students opted for higher general education at upper secondary school level (19 %)

than in the Canton of Lucerne (9 %) (which highlights the preference for school-based education in the Canton of Geneva).⁶ Subsequently, VET in general and the dual system in particular gained significantly more importance in the Canton of Lucerne than in the Canton of Geneva (Cortesi/Imdorf 2013). The two cantons were also chosen because they differed with regard to the predominant economy. While in the Canton of Lucerne agriculture was predominant toward the end of the 19th century, the industrialisation was already advanced in the Canton of Geneva. Respectively, the Canton of Geneva was urbanised earlier than the rural Canton of Lucerne.

We rely on historic, local sources in order to study the tensions and conflicts which were sparked in the context of the institutionalisation of vocational education in both cantons as well as in the following compromise building processes during the early cantonal reforms of vocational education. Specifically, we base our analysis on protocols, circular letters, reports, motions, proclamations, legislative texts as well as executive statutes from the field, in which the discursive practice of the educational reforms of that time are documented. These sources reproduce the public debates of those days, e.g. the discussions within associations and commissions, the consultation processes and hearings, the parliamentary debates, etc. At the same time, the sources also reveal the actors taking part in those reforms which at the time were subject to a justification order. The debates present spaces where the then legitimate collective orders of worth could be realised and a conception of vocational education believed to be adequate could be negotiated.

We selected the analysed text passages on the basis of the chosen topics and the content with analytic relevance to our research question. Suspenseful situations characterised by conflict, contradiction and disputes and with identifiable actors are of particular interest for a historic analysis of educational reforms. Such situations, which at that time framed the negotiations about the adequate form of vocational education, present the

⁶ The authors' own calculation based on Ritzmann-Blickenstorfer (1996, p. 1162).

actual unit of analysis of the justification-theoretical analysis (Diaz-Bone 2011). As such, the notion of situation is not limited to face-to-face situations. Situations also include “complex arrangements or constellations of objects, cognitive formats, problems (coordinations to be realized), institutional settings, persons, concepts” (ibid. p. 49).

We follow Diaz-Bone (2009) and Verdier (2008) to focus our content analysis and pose the following heuristics questions: Which is the conflict situation? Which are the actors that exert criticism? What is considered worthwhile by whom? What knowledge counts as being legitimate? Which model of vocational education is considered adequate and why? Which educational policy principles are represented and which conflict boundaries can be observed? Which compromises were made?

4. The Canton of Geneva: Vocational education as a means for integration and equity

4.1 Societal context and critical actors

The development of the industrial sector in the Canton of Geneva was characterised by the rise of factories in the areas of machine and precision tool making, while in regionally rooted watch and jewellery manufacturing artisanal production continued to persist in the second half of the 19th century (Fazan 1981). Vocational education experienced an early methodisation in the watch industry with the development of training workshops at the beginning of the 19th century and the creation of the Geneva watchmaker school (Association des Directeurs des écoles suisses de l’horlogerie 1948). In most other sectors industrialisation led to an increasing division of labour which resulted in the declining importance of traditional vocational education. In spite of the existence of voluntary supplementary school or evening classes,

education in industry, commerce and trade was rather haphazard and hardly of a systematic nature.

Since the 1880s, the *Parti Radicale* was an important actor when it came to the regulation of vocational education. It was a progressive, centrist party that represented the enlightened bourgeoisie and dominated cantonal politics from the Swiss civil war of 1847 to the end of the First World War. In contrast to the Liberals, the Radicals advocated the statist principle and understood how to incorporate the views of the Social Democratic Party onto their own agenda in a timely manner. This way they managed to demarcate and assert themselves vis-à-vis the Catholic-Conservatives, the Liberals as well as the closely aligned Democrats. In addition to the specific party landscape shaped by the *Parti Radicale*, it is important to note that in Geneva it were not primarily the corporatist oriented circles of artisans and commerce that determined the impetus and direction of the reforms. Moreover, the organised workforce in Geneva formed an important additional political force that, in light of industrialisation and its social consequences (growing class contrast, 'social question'), became involved in the "apprenticeship issue" already early on.

In addition to the Radicals and the political left, the so-called *Conseils de Prud'hommes* also counted as influential actors. Equally composed by employer- and employee-representatives, this militia like supervisory organ oversaw the working conditions and functioned as a complaint and mediation entity. Since 1883 the *Conseils* were also explicitly responsible for the adherence to the apprenticeship contracts in the artisan production, commerce, industry and trade which, however, existed only on a voluntary and rather exceptional basis (Loi organique sur les conseils de Prud'hommes 1883).

4.2 Critique of traditional vocational education

An initiative for a legal regulation of apprenticeships emerged from the *Conseils de Prud'hommes* in the 1880s. The widespread grievances about the neglect of the educational obligations of employers who exploited their apprentices as a cheap workforce, thus unfairly competing with companies that offered regular education and training, served as an impetus. Artisanal production was under increasing pressure from growing domestic and international competition, and the exploitation of apprentices showed that the domestic coordination principle was no longer able to ensure adequate education in light of the economic changes and societal modernisation. This led to requests for governmental regulation.

Consequently, the Geneva government formed a commission headed by the president of the *Commission centrale des Prud'Hommes*, Auguste Le Cointe, to investigate the apprenticeship conditions. Under the title “La question des apprentis” (Le Cointe 1891), the report critically attested the lack of interest by parents as well as by the firms in investing in vocational education. Referring to the civic justification order, the report accused the employers of showing a lack of solidarity. Indeed, many of them benefited from skilled labour, without themselves contributing to VET (free riding). The finding that neither the parents nor the ‘patrons’ lived up to their responsibilities supported the demands for governmental engagement (Rapport 1892, p. 464). By law, parents were supposed to be obliged to fulfil their domestic-familial responsibilities, i.e. to care for the education of their children, so that they would be able to earn a living in the future even in times of crisis.

4.3 Two models: School-based versus dual vocational education

The report by Le Cointe (1891), which led directly to the first law on apprenticeship of the Canton of Geneva (Loi sur les apprentissages 1892), contains a host of reform suggestions regarding the introduction of obligatory apprenticeship contracts and apprenticeship exams as well as responsibilities

for vocational instruction at schools. The latter, the so-called *écoles industrielles* or *écoles d'apprentissages*, were complementary to the training obtained in the workshop and deemed adequate to guarantee systematic education. In contrast to the existing voluntary-based school offers, lessons were to be given according to branch and the students were to be distributed in progressive classes.

In the Geneva reform debate the future of the dual model was not unquestioned, also because the commitment to apprenticeship training was rather low on the employer side. On the workers' and entrepreneur side there were voices that gave preference to school-based VET. Also the commission led by Le Cointe felt compelled to consider the establishment of full-time vocational schools an alternative. The arguments in support of this "extreme" variant were based on similar orders of justification as were claimed for a reform of the traditional apprenticeship model, now complemented by supplementary schooling. However, the full-time school model implied a massive expansion of the role of the state at the expense of professional organisations. Since this also affected the funding of VET, this alternative proved – in the market order of justification – rather unrealistic as a vocational education and training opportunity for broad sections of the population. On the one hand, the families (or the state) would have had to pay school tuition fees, on the other hand the apprentice salaries would have been eliminated. Therefore, dual training seemed appropriate in particular for lower class youths.

The arguments in favour of the public-funded full-time vocational school were pedagogical and methodological in nature. This model seemed appropriate to protect young people from morally bad influences at the workplace and to ensure a moratorium dedicated to general and civic education. Disengaged from requirements such as productivity and profitability, the school would also provide a more appropriate setting for a systematic training based on pedagogical and didactic criteria. From an industrial justification point of view, school-based training seemed more efficient for the transmission of professional skills. These considerations proved to be important for a vote by the Great Council in 1895 in favour of a public full-day school for the building

trade (*Ecole des métiers*) and an *Ecole mécanique* for metal processing, particularly watchmaking. The main argument provided by the Council during the negotiation of this project was that employers and employees were agreeing that “the modern organisation of work in the workshops, factories and on construction sites is incompatible with the requirements of a rational vocational education” (Protokoll der Sitzung vom 29.5.1895, p. 496, translation by the authors).

The *Parti Radicale* referred to both, the industrial and the civic order of justification. The former was in support of a high product quality, the latter of educating autonomous citizens. Therefore, technical training should be accompanied by general education units. Public-state-regulated training was regarded in these circles as being beneficial, as it provided universal qualifications that promoted the workers’ mobility and flexibility and thus offered them more protection against unemployment. Given the threat of "proletarianisation" of the working class and an intensification of class antagonisms, VET was an important factor for social integration.

4.4 One reform – two VET models: Vocational education as a compromise between civic, industrial and market interests

The Le Cointe commission was aware of the limited means for fully school-based training by large segments of the population, especially by poorer social groups which were important target groups for future vocational education. There was agreement that, for the time being, a dual model was the only way to provide affordable vocational education for the populace of apprentices. Ultimately, there was no fundamental opposition from the political left or right against a state-supervised apprenticeship model with a supplementary school component. The former saw in this the ideal educational path for the youth from lower social segments; to the latter the model was most compatible with the needs of small and medium-sized firms. The socialists and labour unions also recognised in dual vocational education a realistic educational path for young people from poorer social environments.

According to Fazan (1981), this vote for a more cost-effective, company-based vocational education came at the expense of the trainees, whose interests would have been better served by a fully state regulated and funded vocational education with high state controlled quality and less dependence on specific economic interests.

Nevertheless, this more expensive model was still accepted and partly established as an alternative, which can be attributed to two case-specific factors: On the one hand, the Geneva economy was to a large extent based on precision engineering industries, in particular watch industry, depending on high quality standards in production and, hence, skills training. The second point already mentioned is the rather low willingness of the Geneva entrepreneurs to provide training.

5. The Canton of Lucerne: Vocational education as a means of (small) business protection

5.1 Societal context and critical actors

Compared to the Canton of Geneva, in the Canton of Lucerne the industrialisation process started late. In the second half of the 19th century it was still a rural, much agriculturally dominated canton. Manual work and rural contexts strongly characterised the sectoral shift marked by the growth of industry, trade and tourism. In the context of freedom of trade and economic pursuit, industrialisation and growing competition created a need for policy reforms. Vocational education was seen as being insufficient in the light of growing competition and an emergent industry that sought to integrate young workers.

To a larger extent than in the Canton of Geneva, the main actors of the formation of a local vocational education system in Lucerne came from crafts

and commerce circles. Their influence was already strong at the early stages of the stepwise institutionalisation of vocational education. Apprenticeship examinations and other measures were introduced to ensure skills formation in a market context and in accordance with efficiency-based industrial principle of coordination. As such, the commerce and crafts circles shaped the content and the organisation of the supplementary school for craftsmanship (*Handwerker-Fortbildungsschule*), founded in 1860 in the city of Lucerne by the philanthropic and trade-oriented “Gemeinnützige Gesellschaft” (Rickenbach 1929). Although the canton took a supervisory role, the apprenticeship exams introduced in 1882 were entirely in their hands (Gewerbeverein Luzern 1883). With the establishment and supervision of schools by crafts and trades, claims beyond purely commercial interests came into play, which required compromises by taking into account civic considerations amongst others.

The government of Lucerne – shaped by a Christian-Conservative majority which was able to politically assert itself without major obstacles vis-à-vis the liberal minority and against Social Democracy in the urban surroundings since 1890 – started to participate in the vocational education debate at the end of the 19th century, in order “to create the opportunity for the apprentice to obtain a vocational training in adequate fashion” (Regierungsrath des Kantons Luzern 1883, p. 6, translation by the authors). Until then, the latter depended solely on the goodwill of the training instructors.

5.2 Criticism of traditional vocational education

A first critical examination of traditional vocational education can be observed in the debates on the first law on apprenticeship and training of 1906 (Gesetz über das Lehrlingswesen 1906) in the Canton of Lucerne (Wettstein 1987). The starting point for this debate was an initiative from crafts and trades circles that aimed at further developing the existing apprenticeship training to safeguard the recruitment and qualification of junior staff. This was also a reaction to the growing competitive pressure from export-oriented large-scale

industry which was based on unskilled and semi-skilled labour. Thus, in their argumentation in support of a VET regulation the market order of justification became authoritative, too.

This regulation has been partially interpreted as a commercial privilege and did not remain undisputed. The Christian Trade Union called for a better protection of apprentices; liberal-democratic as well as patriotic circles and pedagogues committed civic education and a stricter supervision of VET. Such a public endeavor to regulate the relationship between master and apprentice, however, was branded by some representatives from trade circles as a kind of overzealous over-regulation (Bericht des Regierungsrates des Kantons Luzern vom 18.11.1903).

5.3 Dual vocational education as a compromise between industrial, market and civic interests

The 1906 law on apprenticeships for the first time specified that any apprenticeship needs to be regulated by a written training contract, that apprenticeship exams were obligatory and placed under state supervision (Gesetz über das Lehrlingswesen 1906). Moreover, the new law stipulated that attending supplementary vocational school (*gewerbliche Fortbildungsschule*) consisted of four hours per week (six hours for clerk apprentices) and must convey, aside from the necessary specialised skills, civic knowledge. The required hours attending vocational school had to be provided to the apprentice as part of his/her working hours. The law explicitly stated that the training instructor was responsible for the apprentices attending school regularly and that the apprentice could not be obliged in any way to catch up on the work time that was spent on schooling. Further stipulations concerned working hour limits as well as night, Sunday and holiday prohibitions for apprentices.

Even though the industry-politically justified educational quality in the Canton of Lucerne – a compromise between market economy, occupational and local

needs – was the primary motivation behind the dual educational model, it also satisfied civic demands for education: for example, the integration of teaching civic values into vocational school or protecting apprentices from being exploited as cheap labour. The apprenticeship law, while offering co-determination and participation for the diverse stakeholders, secured a clear supremacy of the industry which was able, “based on a non-binding suggestion by the professional associations”, to order a supervisory commission to guard the implementation of the law (Gesetz über das Lehrlingswesen 1906, p. 460, translation by the authors). Affiliated with the cantonal trade association, the professional associations made ample use of the legal provisions for participation and were represented in the relevant supervisory committees. Thus, the commerce circles saw their interests sufficiently guaranteed by the new apprenticeship law and, as such, the innovations seemed to meet acceptance despite some cases of company resistance (Ineichen 1907).

5.4 Reinforcement of the compromise by legislative reform

In practice, the first apprenticeship law in Lucerne from 1906 led to a number of tensions between the involved stakeholders (Departement der Staatswirtschaft des Kantons Luzern 1908, p. 3078). The envisaged measures to protect apprentices were not consistently implemented. For example, in some cases no written apprenticeship contracts were deposited at the municipal administration. Some establishments took extensive advantage of possible exceptions with respect to working hours. These violations were justified by market-based arguments which moved the endangered competitiveness of industry to the fore. While market-related justifications called the regulation of vocational education into question, the Social Democratic Party tried to strengthen state intervention. The Social Democrats pushed for the introduction of public, school-based vocational training in addition to the dual model. In 1915 they campaigned – without success – for the creation of training workshops to ensure the quality of vocational training and to more efficiently protect apprentices from being exploited

(Sozialdemokratische Partei Luzern 1915). Industry representatives, in turn, defended themselves against such a reform, by stating market-based arguments according to which the state would act as a competitor for the craftsman class by running such public, but at the same time productively operating training facilities. In 1918 and 1920, further parliamentary proposals were carried out by Christian-Social circles (Jost 1919), which aimed to revise the apprenticeship law in order to better protect apprentices and to declare the attendance of industrial vocational schools obligatory and to thus build on the enforcement of civic education principles.

Hereinafter, trade representatives as well as the Lucerne Chamber of Commerce opted against compulsory schooling at daytime (Luzerner Handelskammer 1925, p. 3080) but met little response during the discussions on a revised cantonal law on apprenticeship (Lehrlings-Gesetz 1928). Finally, dual vocational education remained the centerpiece of the newly regulated VET in the Canton of Lucerne. By contrast to and in consistence with the market-based arguments, the alternative of public school-based VET, as desired by the employee side, failed to become established (Botschaft des Regierungsrates 1928).

The dual model of VET in the Canton of Lucerne was a compromise between professional-industrial interests and civic interests. On the one hand, the corporatist design and organisation of vocational education was barely altered. On the other hand, the mandatory attendance of vocational schools and supervision by the canton was now solidified. In the struggle over the reform of education, which continued also after 1928, a compromise was reached which did not entirely correspond with the positions of the industry but maintained a significant organisational position for the trade association of the Canton of Lucerne vis-à-vis other actors from trade and industry, the worker representatives as well as the public authorities.

6. Conclusion

Our analyses of the cantonal vocational training reform processes along with legal regulations at the transition from the 19th to the 20th century show that the different formation and organisational design of VET in the two cantons under analysis was promoted by different justifications and compromises. In the Canton of Geneva, due to the political situation and a rather low interest of important sectors of industry in vocational training, objectives of apprentice protection and social integration, promoted by civic principles, had predominance over commercial interests. Next to the *Parti Radicale*, the political left counted as an important actor at crucial stages of the formation of VET. These political forces as well as the bipartite *Conseils de Prud'hommes* voted, by taking recourse to the civic order of justification, for a state-regulated VET. Apart from professional qualifications in accordance with an industrial means-end rationality, the provision of general knowledge with reference to the participatory function was attached importance. Hence, major actors had recognised, from the point of view of civic as well as industrial justification principles, the advantage of vocational education at public full-time schools over dual VET. But in the end a widespread introduction of the former model proved to be too expensive. The inclusion of the cost factor on a market-based justification allowed dual VET to appear as a more realistic option for poor families and also for small and medium-sized enterprises, as they could make up for the costs of training through the low apprentice wages. But unlike other cantons, including the Canton of Lucerne, the school-based model, which relied on civic justification, still represented a legitimate alternative.

In the Canton of Lucerne, right from the beginning the organised circles of trades and crafts defined the agenda of VET reforms. For them, the recruitment and qualification of young professionals was a means of (small) business protection. Securing the market position had priority and hence determined the shape and organisation of vocational training. The dual model prevailed as a hardly disputed compromise. The idea of publicly funded

school-based VET was marginalized as a market distortion and little effective alternative. After all, a more formally regulated vocational training and a strengthening of compulsory vocational school attendance at daytime for all apprentices was implemented on demand of the political left and the Christian Trade Unions.

According to our analyses, dual VET is based on different compromises of justifications, rooted in different local and regional contexts. In the case of Geneva, the dual model was historically based on a compromise of civic and market-based considerations, whereas, in the same canton, arguments from an industrial order of justification in conjunction with civic education requirements were rather in support of school-based VET. In the Canton of Lucerne, the dual system of vocational education is historically based on a compromise of all three justification principles. In particular, the different weighing of market-based and civic principles is likely to have had an impact on the different organisation of VET in the two cantons, i.e. a stronger weighing of school-based VET and a less pronounced dominance of the dual model in the case of Geneva. Conversely, due to the dominance of the market-based principle, in the Canton of Lucerne virtually no organisational alternative to the dual model could gain a foothold at this early and decisive stage of VET formation.

By the dual educational model there emerged a feasible and implementable compromise for a supra-cantonal solution: to integrate and sustainably stabilise the different education-political interests and efforts of cantons (VET as a means of integration and social balance versus VET as a means of commerce promotion) in a corporatist model of vocational education. The first federal law on vocational education of 1930 for the first time regulated VET in the crafts, the industry, transportation, trade and related economic sectors. It views company-based education, with its accompanying obligatory vocational school instruction, as the primary organisational form of vocational education. Education at training workshops or applied schools is mentioned in the legal text as an alternative option in the context of which dual VET might analogously be applied. Initially tested at the cantonal level, the coordination

principle of education and training, defined by Verdier (2008), among others, as being corporatist, was anchored at the national level and to date defines the coordination of training companies, vocational schools and occupational organisations⁷.

Conceptually, the justification-theoretical analytical framework by Boltanski and Thévenot (2006, 1999) proved effective for our analysis of the early developmental phase of Swiss vocational education. The implementation of the dual VET model as a compromise of professional-industrial as well as civic expectations can be clearly reconstructed. Whether the later processes of the pedagogisation and academisation of vocational education can be adequately captured by way of the applied analysis framework remains an open question. With the reforms of the Swiss federal law on vocational education in 1978 and 2004, there is a growing importance of an academic educational logic in the entire educational realm, including vocational education (for example the introduction of the vocational baccalaureate school or, later, the Federal Vocational Baccalaureate). The strengthening of schools as *the* place of learning was achieved less so through the expansion of full-time vocational education but more so through the implementation and acceleration of academic differentiation within the dual system.

Literature

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⁷ About corporatism in the vocational education see Katzenstein 1984, Baethge 1999 and for Switzerland Rüegg 1987.

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